

THE STATE OF TEXAS

§

PS No. 5010

COUNTY OF TRAVIS

§

CONTRACT FOR ENGINEERING SERVICES
Cost Plus Fixed Fee,
Unit Cost, Lump Sum, or Specified Rate
Indefinite Deliverable with Work Authorizations

THIS CONTRACT FOR ENGINEERING SERVICES is made by and between the State of Texas acting by and through the Texas Department of Transportation, 125 E. 11th St., Austin, Texas 78701, hereinafter called "State," and Brown & Gay Engineers, Inc., having its principal business address at 2595 Dallas Parkway, Suite 204, Frisco, Texas 75034, hereinafter called "Engineer," for the purpose of contracting for engineering services.

WITNESSETH

WHEREAS, Government Code, Chapter 2254, Subchapter A, "Professional Services Procurement Act," provides for the procurement of engineering services; and

WHEREAS, 43 Texas Administrative Code §9.30 et seq. establishes the Texas Department of Transportation's policies and procedures for contracting for engineering services; and,

WHEREAS, the State desires to contract for engineering services generally described as professional engineering services necessary to support the planning, development and implementation of statewide Public Private Partnerships, including but not limited to Comprehensive Development Agreements, Design-Build Agreements, Pass-Through Toll Finance Agreements and other innovative financing partnerships; and,

WHEREAS, the State has selected the Engineer to provide the needed services and the Engineer has agreed to provide the services subject to the terms and conditions hereinafter set forth.

NOW, THEREFORE, the State and the Engineer, in consideration of the mutual covenants and agreements herein contained, do hereby mutually agree as follows.

AGREEMENT

ARTICLE 1. SCOPE OF SERVICES. The State and the Engineer will furnish items and perform those services for fulfillment of the contract as identified in Attachment B, Services to be Provided by the State and Attachment C, Services to be Provided by the Engineer. All services provided by the Engineer will conform to standard engineering practices and applicable rules and regulations of the Texas Engineering Practices Act and the rules of the Texas Board of Professional Engineers.

ARTICLE 2. CONTRACT PERIOD. This contract becomes effective when fully executed by all parties hereto and it shall terminate at the close of business on November 20, 2020 unless the contract period is: (1) modified by written supplemental agreement prior to the date of termination as set forth in Attachment A, General Provisions, Article 6, Supplemental Agreements; (2) extended due to a work suspension as provided for in Attachment A, Article 3, Paragraph C; or (3) otherwise terminated in accordance with Attachment A, General Provisions, Article 15, Termination. Any work performed or cost incurred before or after the contract period shall be ineligible for reimbursement.

The maximum contract time is the time needed to complete all work authorizations that will be issued in the first five years of the contract. All work authorizations must be issued within the initial five-year period, starting from the contract execution date.

ARTICLE 3. COMPENSATION.

A. Maximum Amount Payable. The maximum amount payable under this contract without modification is shown in Attachment E, Fee Schedule. Payment under this contract beyond the end of the current fiscal biennium is subject to availability of appropriated funds. If funds are not appropriated, this contract shall be terminated immediately with no liability to either party.

B. Basis of Payment. The basis of payment is identified in Attachment E, Fee Schedule. Reimbursement of costs incurred under a work authorization shall be in accordance with Attachment E, Fee Schedule.

C. Reimbursement of Eligible Costs. To be eligible for reimbursement, the Engineer's costs must (1) be incurred in accordance with the terms of a valid work authorization; (2) be in accordance with Attachment E, Fee Schedule; and (3) comply with cost principles set forth at 48 CFR Part 31, Federal Acquisition Regulation (FAR 31). Satisfactory progress of work shall be maintained as a condition of payment.

D. Engineer Payment of Subproviders. No later than ten (10) days after receiving payment from the State, the Engineer shall pay all subproviders for work performed under a subcontract authorized hereunder. The State may withhold all payments that have or may become due if the Engineer fails to comply with the ten-day payment requirement. The State may also suspend the work under this contract or any work authorization until subproviders are paid. This requirement also applies to all lower tier subproviders, and this provision must be incorporated into all subcontracts.

ARTICLE 4. PAYMENT REQUIREMENTS

A. Monthly Billing Statements. The Engineer shall request reimbursement of costs incurred by submitting the original and one copy of an itemized billing statement in a form acceptable to the State. The Engineer is authorized to submit requests for reimbursement no more frequently than monthly and no later than ninety (90) days after costs are incurred.

B. Billing Statement. The billing statement shall show the work authorization number for each work authorization included in the billing, the total amount earned to the date of submission, and the amount due and payable as of the date of the current billing statement for each work authorization. The billing statement shall indicate if the work has been completed or if the billing is for partial completion of the work. The fixed fee will be paid in proportion to the percentage of work completed per work authorizations.

C. Overhead Rates. The Engineer shall use the provisional overhead rate indicated in Attachment E. If a periodic escalation of the provisional overhead rate is specified in Attachment E, the effective date of the revised provisional overhead rate must be included. For lump sum contracts, the overhead rate remains unchanged for the entire contract period.

D. Thirty Day Payments. Upon receipt of a billing statement that complies with all invoice requirements set forth in this Article, the State shall make a good faith effort to pay the amount which is due and payable within thirty (30) days.

E. Withholding Payments. The State reserves the right to withhold payment of the Engineer's billing statement in the event of any of the following: (1) If a dispute over the work or costs thereof is not resolved within a thirty day period; (2) pending verification of satisfactory work performed; (3) the Engineer becomes a delinquent obligor as set forth in Section 231.006 of the Family Code; (4) required reports are not received; or (5) the State Comptroller of Public Accounts will not issue a warrant to the Engineer. In the event that payment is withheld, the State shall notify the Engineer and give a remedy that would allow the State to release the payment.

F. Required Reports.

(1) As required in Attachment H, Disadvantaged Business Enterprise or Historically Underutilized Business Program Requirements, the Engineer shall submit Progress Assessment Reports to report actual payments made to Disadvantaged Business Enterprises or Historically Underutilized Businesses. One copy shall be submitted with each billing statement and one copy shall be submitted to the address included in Attachment H, Disadvantaged Business Enterprise or Historically Underutilized Business Program Requirements.

(2) Prior to contract closeout, the Engineer shall submit a Final Report (Exhibit H-4) to the address set forth in Attachment H.

(3) The Engineer shall submit a separate report with each billing statement showing the percent completion of the work accomplished during the billing period and the percent completion to date, and any additional written report requested by the State to document the progress of the work.

G. Subproviders and Suppliers List. Pursuant to requirements of 43 Texas Administrative Code §9.50 et seq., the Engineer must provide the State a list (Exhibit H-5/DBE or Exhibit H-6/HUB) of all Subproviders and suppliers that submitted quotes or proposals for subcontracts. This list shall include subproviders and suppliers names, addresses, telephone numbers, and type of work desired.

H. Debt to the State. If the State Comptroller of Public Accounts is prohibited from issuing a warrant or initiating an electronic funds transfer to the Engineer because of a debt owed to the State, the State shall apply all payment due the Engineer to the debt or delinquent tax until the debt or delinquent tax is paid in full.

I. Audit. The state auditor may conduct an audit or investigation of any entity receiving funds from the state directly under the contract or indirectly through a subcontract under the contract. Acceptance of funds directly under the contract or indirectly through a subcontract under this contract acts as acceptance of the authority of the state auditor, under the direction of the legislative audit committee, to conduct an audit or investigation in connection with those funds. An entity that is the subject of an audit or investigation must provide the state auditor with access to any information the state auditor considers relevant to the investigation or audit.

ARTICLE 5. WORK AUTHORIZATIONS. The State will issue work authorizations using the form included in Attachment D (Work Authorizations and Supplemental Work Authorizations) to authorize all work under this contract. The Engineer must sign and return a work authorization within seven (7) working days after receipt. Refusal to accept a work authorization may be grounds for termination of the contract. The State shall not be responsible for actions by the Engineer or any costs incurred by the Engineer relating to work not directly associated with or prior to the execution of a work authorization. Terms and conditions governing the use of work authorizations are set forth in Attachment A, General Provisions, Article 1.

ARTICLE 6. SIGNATORY WARRANTY. The undersigned signatory for the Engineer hereby represents and warrants that he or she is an officer of the organization for which he or she has executed this contract and that he or she has full and complete authority to enter into this contract on behalf of the firm. These representations and warranties are made for the purpose of inducing the State to enter into this contract.

ARTICLE 7. All notices to either party by the other required under this agreement shall be delivered personally or sent by certified or U.S. mail, postage prepaid, addressed to such party at the following addresses:

Engineer:	State:
<p>Project Manager Brown & Gay Engineers, Inc. 2595 Dallas Parkway, Suite 204 Frisco, Texas 75034</p>	<p>Director, Professional Engineering Procurement Services Texas Department of Transportation 125 E. 11th Street Austin, Texas 78701</p>

All notices shall be deemed given on the date so delivered or so deposited in the mail, unless otherwise provided herein. Either party may change the above address by sending written notice of the change to the other party. Either party may request in writing that such notices shall be delivered personally or by certified U.S. mail and such request shall be honored and carried out by the other party.

ARTICLE 8. INCORPORATION OF PROVISIONS. Attachments A through H are attached hereto and incorporated into this contract as if fully set forth herein.

IN WITNESS WHEREOF, the **State** and the **Engineer** have executed this contract in duplicate.

THE ENGINEER

Wm D Dillon
(Signature)

William D. Dillon
(Printed Name)

Executive Vice President
(Title)

11/19/15
(Date)

THE STATE OF TEXAS

James M Bass
(Signature)

James M. Bass
Executive Director
(Title)

2/4/2016
(Date)

**Attachments to Contract for Engineering Services
Incorporated into the Contract by Reference**

Attachments	Title
A	General Provisions
A-1	Key Personnel
B	Services to Be Provided by the State
C	Services to Be Provided by the Engineer
D	Work Authorization and Supplemental Work Authorization
E	Fee Schedule
F	Not Applicable
G	Computer Graphics Files for Document and Information Exchange, if applicable
H-FG	Disadvantaged Business Enterprise (DBE) for Federal Funded Professional or Technical Services Contracts – See Attachment H Instructions
H – FN	Disadvantaged Business Enterprise (DBE) for Race-Neutral Professional or Technical Services Contracts – See Attachment H Instructions - N/A
H – SG	Historically Underutilized Business (HUB) Requirements for State Funded Professional or Technical Services Contracts – State of Texas HUB. Subcontracting plan required – See Attachment H Instructions - N/A
H – SN	Historically Underutilized Business (HUB) Requirements for State Funded Professional or Technical Services Contracts – No State of Texas HUB - N/A
Exhibits	Title
H – 1	Subprovider Monitoring System Commitment Worksheet
H – 2	Subprovider Monitoring System Commitment Agreement
H – 3	Monthly Progress Assessment Report
H - 4	Subprovider Monitoring System Final Report
H - 5	Federal Subproviders and Supplier Information
H - 6	HUB Subcontracting Plan (HSP) Prime Contractor Progress Assessment Report - N/A

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ATTACHMENT A

GENERAL PROVISIONS

ARTICLE 1. WORK AUTHORIZATIONS

A. Use. The Engineer shall not begin any work until the State and the Engineer have signed a work authorization. Costs incurred by the Engineer before a work authorization is fully executed or after the completion date specified in the work authorization are not eligible for reimbursement. All work must be completed on or before the completion date specified in the work authorization, and no work authorization completion date shall extend beyond the contract period set forth in Article 2 of the contract (Contract Period).

The maximum contract time is the time needed to complete all work authorizations that will be issued in the first five years of the contract. All work authorizations must be issued within the initial five-year period, starting from the contract execution date.

B. Contents. Each work authorization will specify (1) the types of services to be performed; (2) a period of performance with a beginning and ending date; (3) a full description of the work to be performed; (4) a work schedule with milestones; (5) a cost not to exceed amount, (6) the basis of payment whether cost plus fixed fee, unit cost, lump sum, or specified rate; and (7) a work authorization budget calculated using fees set forth in Attachment E, Fee Schedule. The Engineer is not to include additional contract terms and conditions in the work authorization. In the event of any conflicting terms and conditions between the work authorization and the contract, the terms and conditions of the contract shall prevail and govern the work and costs incurred.

C. Work Authorization Budget. A work authorization budget shall set forth in detail (1) the computation of the estimated cost of the work as described in the work authorization, (2) the estimated time (hours/days) required to complete the work at the hourly rates established in Attachment E, Fee Schedule; (3) a work plan that includes a list of the work to be performed, (4) a stated maximum number of calendar days to complete the work, and (5) a cost-not-to-exceed-amount or unit or lump sum cost and the total cost or price of the work authorization. The State will not pay items of cost that are not included in or rates that exceed those approved in Attachment E.

D. No Guaranteed Work. Work authorizations are issued at the discretion of the State. While it is the State's intent to issue work authorizations hereunder, the Engineer shall have no cause of action conditioned upon the lack or number of work authorizations issued.

E. Incorporation into Contract. Each work authorization shall be signed by both parties and become a part of the contract. No work authorization will waive the State's or the Engineer's responsibilities and obligations established in this contract. The Engineer shall promptly notify the State of any event that will affect completion of the work authorization.

F. Supplemental Work Authorizations. Before additional work may be performed or additional costs incurred, a change in a work authorization shall be enacted by a written supplemental work authorization in the form identified and attached hereto as Attachment D. Both parties must execute a supplemental work authorization within the period of performance specified in the work authorization. The State shall not be responsible for actions by the Engineer or any costs incurred by the Engineer relating to additional work not directly associated with the performance or prior to the execution of the work authorization. The Engineer shall allow adequate time for review and approval of the supplemental work authorization by the State prior to expiration of the work authorization. Any supplemental work authorization must be executed by both parties within the time period established in Article 2 of the contract, (Contract Period). Under no circumstances will a work authorization be allowed to extend beyond the contract's expiration date or will the total amount of funds exceed the maximum amount payable set forth in Article 3A of the contract (Compensation).

F-1. More Time Needed. If the Engineer determines or reasonably anticipates that the work authorized in a work authorization cannot be completed before the specified completion date, the Engineer shall promptly notify the State. The State may, at its sole discretion, extend the work authorization period by execution of supplemental authorization, using the form attached hereto as Attachment D.

F-2. Changes in Scope. Changes that would modify the scope of the work authorized in a work authorization must be enacted by a written supplemental work authorization. The Engineer must allow

adequate time for the State to review and approve any request for a time extension prior to expiration of the work authorization. If the change in scope affects the amount payable under the work authorization, the Engineer shall prepare a revised work authorization budget for the State's approval.

G. New Work Authorization. If the Engineer does not complete the services authorized in a work authorization before the specified completion date and has not requested a supplemental work authorization, the work authorization shall terminate on the completion date. At the sole discretion of the State, it may issue a new work authorization to the Engineer for the incomplete work using the unexpended balance of the preceding work authorization for the project. If approved by the State, the Engineer may calculate any additional cost for the incomplete work using the rates set forth in the preceding work authorization and in accordance with Attachment E, Fee Schedule.

H. Emergency Work Authorizations. The State, at its sole discretion, may accept the Engineer's signature on a faxed copy of the work authorization as satisfying the requirements for executing the work authorization, provided that the signed original is received by the State within five business days from the date on the faxed copy.

I. Proposal Work Authorizations. The State may issue a proposal work authorization under which the Engineer will submit a proposal for additional work. The proposal must be for additional work that is within the defined scope of work under this contract. The amount to be paid for a proposal work authorization will be a lump sum for each proposal. The lump sum payment will be no less than two percent (2%) and no more than four percent (4%) of the State's estimate of the cost of the additional work. The Engineer may elect without penalty not to submit a proposal in response to a proposal work authorization. Any proposal submitted in response to a proposal work authorization will be the sole property of the State. The State may, at its option, issue similar or identical proposal work authorizations under other contracts, and the proposals submitted in response to the various proposal work authorizations may be compared by the State for the purpose of determining the contract under which the work will be awarded. The determination of the contract under which the work will be awarded will be based on the design characteristics of the proposal and the Engineer's qualifications and will not consider the Engineer's rates.

J. Deliverables. Upon satisfactory completion of the work authorization, the Engineer shall submit the deliverables as specified in the executed work authorization to the State for review and acceptance.

ARTICLE 2. PROGRESS

A. Progress meetings. The Engineer shall from time to time during the progress of the work confer with the State. The Engineer shall prepare and present such information as may be pertinent and necessary or as may be requested by the State in order to evaluate features of the work.

B. Conferences. At the request of the State or the Engineer, conferences shall be provided at the Engineer's office, the office of the State, or at other locations designated by the State. These conferences shall also include evaluation of the Engineer's services and work when requested by the State.

C. Inspections. If federal funds are used to reimburse costs incurred under this contract, the work and all reimbursements will be subject to periodic review by the U. S. Department of Transportation.

D. Reports. The Engineer shall promptly advise the State in writing of events that have a significant impact upon the progress of a work authorization, including:

1. problems, delays, adverse conditions that will materially affect the ability to meet the time schedules and goals, or preclude the attainment of project work units by established time periods; this disclosure will be accompanied by statement of the action taken or contemplated, and any State or federal assistance needed to resolve the situation; and
2. favorable developments or events which enable meeting the work schedule goals sooner than anticipated.

E. Corrective Action. Should the State determine that the progress of work does not satisfy the milestone schedule set forth in a work authorization, the State shall review the work schedule with the Engineer to determine the nature of corrective action needed.

ARTICLE 3. SUSPENSION OF WORK AUTHORIZATION

A. Notice. Should the State desire to suspend a work authorization but not terminate the contract, the State may verbally notify the Engineer followed by written confirmation, giving (30) thirty days notice. Both parties may waive the thirty-day notice in writing.

B. Reinstatement. A work authorization may be reinstated and resumed in full force and effect within sixty (60) business days of receipt of written notice from the State to resume the work. Both parties may waive the sixty-day notice in writing.

C. Contract Period Not Affected. If the State suspends a work authorization, the contract period as determined in Article 2 of the contract (Contract Period) is not affected and the contract and the work authorization will terminate on the date specified unless the contract or work authorization is amended to authorize additional time.

D. Limitation of Liability. The State shall have no liability for work performed or costs incurred prior to the date authorized by the State to begin work, during periods when work is suspended, or after the completion date of the contract or work authorization.

ARTICLE 4. ADDITIONAL WORK

A. Notice. If the Engineer is of the opinion that any assigned work is beyond the scope of this contract and constitutes additional work, it shall promptly notify the State in writing, presenting the facts of the work authorization and showing how the work authorization constitutes additional work.

B. Supplemental Agreement. If the State finds that the work does constitute additional work, the State shall so advise the Engineer and a written supplemental agreement will be executed as provided in General Provisions, Article 6, Supplemental Agreements.

C. Limitation of Liability. The State shall not be responsible for actions by the Engineer or any costs incurred by the Engineer relating to additional work not directly associated with or prior to the execution of a supplemental agreement.

ARTICLE 5. CHANGES IN WORK

A. Work Previously Submitted as Satisfactory. If the Engineer has submitted work in accordance with the terms of this contract but the State requests changes to the completed work or parts thereof which involve changes to the original scope of services or character of work under the contract, the Engineer shall make such revisions as requested and as directed by the State. This will be considered as additional work and paid for as specified under Article 4, Additional Work.

B. Work Does Not Comply with Contract. If the Engineer submits work that does not comply with the terms of this contract, the State shall instruct the Engineer to make such revision as is necessary to bring the work into compliance with the contract. No additional compensation shall be paid for this work.

C. Errors/Omissions. The Engineer shall make revisions to the work authorized in this contract which are necessary to correct errors or omissions appearing therein, when required to do so by the State. No additional compensation shall be paid for this work.

ARTICLE 6. SUPPLEMENTAL AGREEMENTS

A. Need. The terms of this contract may be modified if the State determines that there has been a significant increase or decrease in the duration, scope, cost, complexity or character of the services to be performed. A supplemental agreement will be executed to authorize such significant increases or decreases. Significant is defined to mean a cost increase of any amount and a cost decrease of twenty percent (20%) or more of the original estimated project cost.

B. Compensation. Additional compensation, if appropriate, shall be calculated as set forth in Article 3 of the contract (Compensation). Significant changes affecting the cost or maximum amount payable shall be defined to include but not be limited to new work not previously authorized or previously authorized services that will not be performed. The parties may reevaluate and renegotiate costs at this time.

C. When to Execute. Both parties must execute a supplemental agreement within the contract period specified in Article 2 of the contract (Contract Period).

ARTICLE 7. OWNERSHIP OF DATA

A. Work for Hire. All services provided under this contract are considered work for hire and as such all data, basic sketches, charts, calculations, plans, specifications, and other documents created or collected under the terms of this contract are the property of the State.

B. Disposition of Documents. All documents prepared by the Engineer and all documents furnished to the Engineer by the State shall be delivered to the State upon request by the State. The Engineer, at its own expense, may retain copies of such documents or any other data which it has furnished the State under this contract, but further use of the data is subject to permission by the State.

C. Release of Design Plan. The Engineer (1) will not release any roadway design plan created or collected under this contract except to its subproviders as necessary to complete the contract; (2) shall include a provision in all subcontracts which acknowledges the State's ownership of the design plan and prohibits its use for any use other than the project identified in this contract; and (3) is responsible for any improper use of the design plan by its employees, officers, or subproviders, including costs, damages, or other liability resulting from improper use. Neither the Engineer nor any subprovider may charge a fee for the portion of the design plan created by the State.

ARTICLE 8. PUBLIC INFORMATION AND CONFIDENTIALITY

A. Public Information. The State will comply with Government Code, Chapter 552, the Public Information Act, and 43 Texas Administrative Code §3.10 et seq. in the release of information produced under this contract.

B. Confidentiality. The Engineer shall not disclose information obtained from the State under this contract without the express written consent of the State.

C. Access to Information. The Engineer is required to make any information created or exchanged with the state pursuant to this contract, and not otherwise excepted from disclosure under the Texas Public Information Act, available in a format that is accessible by the public at no additional charge to the state.

ARTICLE 9. PERSONNEL, EQUIPMENT AND MATERIAL

A. Engineer Resources. The Engineer shall furnish and maintain quarters for the performance of all services, in addition to providing adequate and sufficient personnel and equipment to perform the services required under the contract. The Engineer certifies that it presently has adequate qualified personnel in its employment for performance of the services required under this contract, or it will be able to obtain such personnel from sources other than the State.

B. Removal of Employee. Each employee of the Engineer assigned to this contract shall have sufficient knowledge and experience for performance of assigned duties. The State may instruct the Engineer to remove any employee from association with work authorized in this contract if, in the sole opinion of the State, the work of that employee does not comply with the terms of this contract or if the conduct of that employee becomes detrimental to the work.

C. Dedication of Key Personnel. Key personnel and the dates and duration of their dedication to the State's work are identified on Attachment A-1. This list may be modified by written agreement of the Engineer and the State's division director for the division in which the work will be performed. In selecting the Engineer, the State relied on the Engineer's representation that certain key personnel will be available to the State on a full-time basis. Therefore, those key personnel will be dedicated to the State's work as specified on Attachment A-1 and will not perform work for or provide services to any other clients or prospective clients. The State's division director for the division in which the work will be performed may waive this requirement in writing. Key personnel may engage in non-client-related administration and training. Violation of this paragraph by the Engineer is a willful and material breach of this contract. In that event, the State may terminate this contract without the payment of any termination fee and may pursue any other remedy afforded by law or this contract. The Engineer shall initiate no action to cause any key personnel to seek to relocate to another project, and the Engineer shall not terminate any key personnel except for cause.

D. Replacement of Key Personnel. The Engineer may not replace key personnel without the prior written consent of the State. If any key personnel cease to work on this contract, the Engineer must notify the State in writing as soon as possible, but in any event within three business days. The notification must give the reason for removal. The State's district engineer for the district in which the work will be performed may consent in writing to the substitution of key personnel. The State's consent will be based on whether the new key personnel are qualified to provide the required services. Consent will not be unreasonably withheld.

1. If any key personnel die or cease to be employed by the Engineer or its affiliates, the Engineer shall offer a substitute as soon as possible. The State must consent in writing to the substitution. No liquidated damages will accrue during this period. If the parties do not agree on a substitute within forty-five calendar days after the death or termination of the key personnel, liquidated damages will accrue.
2. If any key personnel are absent from work for twenty-two consecutive calendar days for any reason other than death or termination of employment, the Engineer shall offer a temporary or permanent substitute as soon as possible. The State must consent in writing to the substitution. No liquidated damages will accrue during this period. If the parties have not agreed on a substitute before the expiration of the thirty-sixth consecutive day of absence, liquidated damages will accrue.
3. Violation of this paragraph by the Engineer is a material breach of contract. In that event, the State may terminate this contract without payment of any termination fee and may pursue any other remedy afforded by law or this contract.

E. Liquidated Damages. Because of the important and unique nature of the services to be provided by key personnel, it is impractical to determine the actual losses that would be suffered by the State by the loss of key personnel from the contract. Therefore, the Engineer agrees to compensate the State for its losses by paying liquidated damages of \$2,500.00 per day. Liquidated damages shall cease when the parties agree on a substitute or when the contract is terminated.

F. Ownership of Acquired Property. Except to the extent that a specific provision of this contract states to the contrary, the State shall own all intellectual property acquired or developed under this contract and all equipment purchased by the Engineer or its subcontractors under this contract. All intellectual property and equipment owned by the State shall be delivered to the State when the contract terminates, or when it is no longer needed for work performed under this contract, whichever occurs first.

ARTICLE 10. LICENSE FOR TxDOT LOGO USE

A. Grant of License; Limitations. The Engineer is granted a limited revocable non-exclusive license to use the registered TxDOT trademark logo (TxDOT Flying "T") on any deliverables prepared under this contract that are the property of the State. The Engineer may not make any use of the registered TxDOT trademark logo on any other materials or documents unless it first submits that request in writing to the State and receives approval for the proposed use. The Engineer agrees that it shall not alter, modify, dilute, or otherwise misuse the registered TxDOT trademark logo or bring it into disrepute.

B. Notice of Registration Required: The Engineer's use of the Flying 'T' under this article shall be followed by the capital letter R enclosed within a circle (®) that gives notice that the Flying 'T' is registered in the United States Patent and Trademark Office (USPTO).

C. No Assignment or Sublicense. The Engineer may not assign or sublicense the rights granted by this article without the prior written consent of the State.

D. Term of License. The license granted to the Engineer by this article shall terminate at the end of the term specified in Article 2 of this contract.

ARTICLE 11. SUBCONTRACTING

A. Prior Approval. The Engineer shall not assign, subcontract or transfer any portion of professional services related to the work under this contract without prior written approval from the State.

B. DBE/HUB Compliance. The Engineer's subcontracting program shall comply with the requirements of Attachment H of the contract (DBE/HUB Requirements).

C. Required Provisions. All subcontracts for professional services shall include the provisions included in Attachment A, General Provisions, and any provisions required by law. The Engineer is authorized to pay subproviders in accordance with the terms of the subcontract, and the basis of payment may differ from the basis of payment by the State to the Engineer.

D. Prior Review. Subcontracts for professional services in excess of \$25,000 may be reviewed by the State prior to performance of work thereunder.

E. Engineer Responsibilities. No subcontract relieves the Engineer of any responsibilities under this contract.

ARTICLE 12. INSPECTION OF WORK

A. Review Rights. The State and the U.S. Department of Transportation, when federal funds are involved, and any of their authorized representatives shall have the right at all reasonable times to review or otherwise evaluate the work performed hereunder and the premises in which it is being performed.

B. Reasonable Access. If any review or evaluation is made on the premises of the Engineer or a subprovider, the Engineer shall provide and require its subproviders to provide all reasonable facilities and assistance for the safety and convenience of the state or federal representatives in the performance of their duties.

ARTICLE 13. SUBMISSION OF REPORTS

All applicable study reports shall be submitted in preliminary form for approval by the State before a final report is issued. The State's comments on the Engineer's preliminary report must be addressed in the final report.

ARTICLE 14. VIOLATION OF CONTRACT TERMS

A. Increased Costs. Violation of contract terms, breach of contract, or default by the Engineer shall be grounds for termination of the contract, and any increased or additional cost incurred by the State arising from the Engineer's default, breach of contract or violation of contract terms shall be paid by the Engineer.

B. Remedies. This agreement shall not be considered as specifying the exclusive remedy for any default, but all remedies existing at law and in equity may be availed of by either party and shall be cumulative.

ARTICLE 15. TERMINATION

A. Causes. The contract may be terminated before the stated completion date by any of the following conditions.

1. By mutual agreement and consent, in writing from both parties.
2. By the State by notice in writing to the Engineer as a consequence of failure by the Engineer to perform the services set forth herein in a satisfactory manner.
3. By either party, upon the failure of the other party to fulfill its obligations as set forth herein.
4. By the State for reasons of its own, not subject to the mutual consent of the Engineer, by giving thirty business days notice of termination in writing to the Engineer.
5. By the State, if the Engineer violates the provisions of Attachment A, General Provisions Article 21, Gratuities, or Attachment H, Disadvantaged Business Enterprise/Historically Underutilized Business Requirements.
6. By satisfactory completion of all services and obligations described herein.

B. Measurement. Should the State terminate this contract as herein provided, no fees other than fees due and payable at the time of termination shall thereafter be paid to the Engineer. In determining the value of the work performed by the Engineer prior to termination, the State shall be the sole judge. Compensation for work at termination will be based on a percentage of the work completed at that time. Should the State terminate this contract under paragraph (4) or (5) above, the Engineer shall not incur costs during the thirty-day notice period in excess of the amount incurred during the preceding thirty days.

C. Value of Completed Work. If the Engineer defaults in the performance of this contract or if the State terminates this contract for fault on the part of the Engineer, the State will give consideration to the following when calculating the value of the completed work: (1) the actual costs incurred (not to exceed the rates set forth in Attachment E, Fee Schedule) by the Engineer in performing the work to the date of default; (2) the

amount of work required which was satisfactorily completed to date of default; (3) the value of the work which is usable to the State; (4) the cost to the State of employing another firm to complete the required work; (5) the time required to employ another firm to complete the work; and (6) other factors which affect the value to the State of the work performed.

D. Calculation of Payments. The State shall use the fee schedule set forth in Attachment E to the contract (Fee Schedule) in determining the value of the work performed up to the time of termination. In the case of partially completed engineering services, eligible costs will be calculated as set forth in Attachment E, Fee Schedule. The sum of the provisional overhead percentage rate for payroll additives and for general and administrative overhead costs during the years in which work was performed shall be used to calculate partial payments. Any portion of the fixed fee not previously paid in the partial payments shall not be included in the final payment.

E. Excusable Delays. Except with respect to defaults of subproviders, the Engineer shall not be in default by reason of any failure in performance of this contract in accordance with its terms (including any failure to progress in the performance of the work) if such failure arises out of causes beyond the control and without the default or negligence of the Engineer. Such causes may include, but are not restricted to, acts of God or the public enemy, acts of the Government in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather.

F. Surviving Requirements. The termination of this contract and payment of an amount in settlement as prescribed above shall extinguish the rights, duties, and obligations of the State and the Engineer under this contract, except for those provisions that establish responsibilities that extend beyond the contract period.

G. Payment of Additional Costs. If termination of this contract is due to the failure of the Engineer to fulfill its contract obligations, the State may take over the project and prosecute the work to completion, and the Engineer shall be liable to the State for any additional cost to the State.

ARTICLE 16. COMPLIANCE WITH LAWS

The Engineer shall comply with all applicable federal, state and local laws, statutes, codes, ordinances, rules and regulations, and the orders and decrees of any court, or administrative bodies or tribunals in any manner affecting the performance of this contract, including, without limitation, worker's compensation laws, minimum and maximum salary and wage statutes and regulations, nondiscrimination, and licensing laws and regulations. When required, the Engineer shall furnish the State with satisfactory proof of its compliance therewith.

ARTICLE 17. INDEMNIFICATION

A. Errors, Omissions, Negligent Acts. The Engineer shall save harmless the State and its officers and employees from all claims and liability due to activities of itself, its agents, or employees, performed under this contract and which are caused by or result from error, omission, or negligent act of the Engineer or of any person employed by the Engineer.

B. Attorney Fees. The Engineer shall also save harmless the State from any and all expense, including, but not limited to, attorney fees which may be incurred by the State in litigation or otherwise resisting said claim or liabilities which may be imposed on the State as a result of such activities by the Engineer, its agents, or employees.

ARTICLE 18. ENGINEER'S RESPONSIBILITY

A. Accuracy. The Engineer shall be responsible for the accuracy of work and shall promptly make necessary revisions or corrections resulting from its errors, omissions, or negligent acts without compensation.

B. Errors and Omissions. The Engineer's Responsibility for all questions arising from design errors or omissions will be determined by the State. All decisions shall be in accordance with the State's "Consultant Errors & Omissions Correction and Collection Procedures" and Texas Government Code §2252.905. The Engineer will not be relieved of the responsibility for subsequent correction of any such errors or omissions or for clarification of any ambiguities until after the construction phase of the project has been completed.

C. Seal. The responsible Engineer shall sign, seal and date all appropriate engineering submissions to the

State in accordance with the Texas Engineering Practice Act and the rules of the Texas Board of Professional Engineers.

D. Resealing of Documents. Once the work has been sealed and accepted by the State, the State, as the owner, will notify the party to this contract, in writing, of the possibility that a State engineer, as a second engineer, may find it necessary to alter, complete, correct, revise or add to the work. If necessary, the second engineer will affix his seal to any work altered, completed, corrected, revised or added. The second engineer will then become responsible for any alterations, additions or deletions to the original design including any effect or impacts of those changes on the original engineer's design.

ARTICLE 19. NONCOLLUSION

A. Warranty. The Engineer warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for the Engineer, to solicit or secure this contract and that it has not paid or agreed to pay any company or engineer any fee, commission, percentage, brokerage fee, gifts, or any other consideration, contingent upon or resulting from the award or making of this contract.

B. Liability. For breach or violation of this warranty, the State shall have the right to annul this contract without liability or, in its discretion, to deduct from the contract price or compensation, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift or contingent fee.

ARTICLE 20. INSURANCE

The Engineer certifies that it has insurance on file with Contract Services of the Texas Department of Transportation in the amount specified on Texas Department of Transportation Form 1560-CS Certificate of Insurance, as required by the State. No other proof of insurance is acceptable to the State. The Engineer certifies that it will keep current insurance on file with that office for the duration of the contract period. If insurance lapses during the contract period, the Engineer must stop work until a new certificate of insurance is provided.

ARTICLE 21. GRATUITIES

A. Employees Not to Benefit. Texas Transportation Commission policy mandates that employees of the Texas Department of Transportation shall not accept any benefit, gift or favor from any person doing business with or who reasonably speaking may do business with the State under this contract. The only exceptions allowed are ordinary business lunches and items that have received the advance written approval of the Executive Director of the Texas Department of Transportation.

B. Liability. Any person doing business with or who reasonably speaking may do business with the State under this contract may not make any offer of benefits, gifts or favors to department employees, except as mentioned above. Failure on the part of the Engineer to adhere to this policy may result in the termination of this contract.

ARTICLE 22. DISADVANTAGED BUSINESS ENTERPRISE OR HISTORICALLY UNDERUTILIZED BUSINESS REQUIREMENTS

The Engineer agrees to comply with the requirements set forth in Attachment H, Disadvantaged Business Enterprise or Historically Underutilized Business Subcontracting Plan Requirements with an assigned goal or a zero goal, as determined by the State.

ARTICLE 23. MAINTENANCE, RETENTION AND AUDIT OF RECORDS

A. Retention Period. The Engineer shall maintain all books, documents, papers, accounting records and other evidence pertaining to costs incurred and services provided (hereinafter called the Records). The Engineer shall make the records available at its office during the contract period and for seven (7) years from the date of final payment under this contract, until completion of all audits, or until pending litigation has been completely and fully resolved, whichever occurs last.

B. Availability. The State or any of its duly authorized representatives, the Federal Highway Administration, the United States Department of Transportation, Office of Inspector General, and the Comptroller General shall have access to the Engineer's Records which are directly pertinent to this contract for the purpose of making audits, examinations, excerpts and transcriptions.

ARTICLE 24. NEPOTISM DISCLOSURE

A. In this section the term "relative" means:

- (1) a person's great grandparent, grandparent, parent, aunt or uncle, sibling, niece or nephew, spouse, child, grandchild, or great grandchild, or
- (2) the grandparent, parent, sibling, child, or grandchild of the person's spouse.

B. A notification required by this section shall be submitted in writing to the person designated to receive official notices under this contract and by first-class mail addressed to Contract Services Office, Texas Department of Transportation, 125 East 11th Street, Austin Texas 78701. The notice shall specify the Engineer's firm name, the name of the person who submitted the notification, the contract number, the district, division, or office of TxDOT that is principally responsible for the contract, the name of the relevant Engineer employee, the expected role of the Engineer employee on the project, the name of the TxDOT employee who is a relative of the Engineer employee, the title of the TxDOT employee, the work location of the TxDOT employee, and the nature of the relationship.

C. By executing this contract, the Engineer is certifying that the Engineer does not have any knowledge that any of its employees or of any employees of a subcontractor who are expected to work under this contract have a relative that is employed by TxDOT unless the Engineer has notified TxDOT of each instance as required by subsection (b).

D. If the Engineer learns at any time that any of its employees or that any of the employees of a subcontractor who are performing work under this contract have a relative who is employed by TxDOT, the Engineer shall notify TxDOT under subsection (b) of each instance within thirty days of obtaining that knowledge.

E. If the Engineer violates this section, TxDOT may terminate the contract immediately for cause, may impose any sanction permitted by law, and may pursue any other remedy permitted by law.

ARTICLE 25. CIVIL RIGHTS COMPLIANCE

A. Compliance with Regulations: The Engineer will comply with the Acts and the Regulations relative to Nondiscrimination in Federally-assisted programs of the U.S. Department of Transportation, the Federal Highway Administration, as they may be amended from time to time.

B. Nondiscrimination: The Engineer, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, sex, or national origin in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The Engineer will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 45 CFR Part 21.

C. Solicitations for Subcontracts, Including Procurement of Materials and Equipment: In all solicitations either by competitive bidding or negotiation made by the Engineer for work to be performed under a subcontract, including procurement of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the Engineer of the Engineer's obligations under this contract and the Acts and Regulations relative to Nondiscrimination on the grounds of race, color, or national origin.

D. Information and Reports: The Engineer shall provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto, and will permit access to its books, records, accounts, other sources of information, and facilities as may be determined by the State or the Federal Highway Administration to be pertinent to ascertain compliance with such Acts, Regulations or directives. Where any information required of the Engineer is in the exclusive possession of another who fails or refuses to furnish this information, the Engineer will so certify to the State or the Federal Highway Administration, as appropriate, and shall set forth what efforts it has made to obtain the information.

E. Sanctions for Noncompliance: In the event of the Engineer's noncompliance with the Nondiscrimination provisions of this contract, the State will impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:

- a) withholding of payments to the Engineer under the contract until the Engineer complies and/or
- b) cancellation, termination, or suspension of the contract, in whole or in part.

F. Incorporation of Provisions: The Engineer will include the provisions of paragraphs (A) through (E) in every subcontract, including procurement of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The Engineer will take such action with respect to any subcontract or procurement as the State or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance provided, however, that in the event an Engineer becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the Engineer may request the Texas Department of Transportation to enter into such litigation to protect the interests of the State; and, in addition, the Engineer may request the United States to enter into such litigation to protect the interests of the United States.

ARTICLE 26. PATENT RIGHTS

The State and the U. S. Department of Transportation shall have the royalty free, nonexclusive and irrevocable right to use and to authorize others to use any patents developed by the Engineer under this contract.

ARTICLE 27. COMPUTER GRAPHICS FILES

The Engineer agrees to comply with Attachment G, Computer Graphics Files for Document and Information Exchange, if determined by the State to be applicable to this contract.

ARTICLE 28. CHILD SUPPORT CERTIFICATION

Under Section 231.006, Texas Family Code, the Engineer certifies that the individual or business entity named in this contract, bid, or application is not ineligible to receive the specified grant, loan, or payment and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate. If the above certification is shown to be false, the Engineer is liable to the state for attorney's fees, the cost necessary to complete the contract, including the cost of advertising and awarding a second contract, and any other damages provided by law or the contract. A child support obligor or business entity ineligible to receive payments because of a payment delinquency of more than thirty (30) days remains ineligible until: all arrearages have been paid; the obligor is in compliance with a written repayment agreement or court order as to any existing delinquency; or the court of continuing jurisdiction over the child support order has granted the obligor an exemption from Subsection (a) of Section 231.006, Texas Family Code, as part of a court-supervised effort to improve earnings and child support payments.

ARTICLE 29. DISPUTES

A. Disputes Not Related to Contract Services. The Engineer shall be responsible for the settlement of all contractual and administrative issues arising out of any procurement made by the Engineer in support of the services authorized herein.

B. Disputes Concerning Work or Cost. Any dispute concerning the work hereunder or additional costs, or any non-procurement issues shall be settled in accordance with 43 Texas Administrative Code §9.2.

ARTICLE 30. SUCCESSORS AND ASSIGNS

The Engineer and the State do each hereby bind themselves, their successors, executors, administrators and assigns to each other party of this agreement and to the successors, executors, administrators and assigns of such other party in respect to all covenants of this contract. The Engineer shall not assign, subcontract or transfer its interest in this contract without the prior written consent of the State.

ARTICLE 31. SEVERABILITY

In the event any one or more of the provisions contained in this contract shall for any reason, be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision thereof and this contract shall be construed as if such invalid, illegal, or unenforceable provision had never been contained herein.

ARTICLE 32. PRIOR CONTRACTS SUPERSEDED

This contract constitutes the sole agreement of the parties hereto for the services authorized herein and supersedes any prior understandings or written or oral contracts between the parties respecting the subject matter defined herein.

ARTICLE 33. CONFLICT OF INTEREST**A. Representation by Engineer.**

The Engineer represents that its firm has no conflict of interest that would in any way interfere with its or its employees' performance of services for the department or which in any way conflicts with the interests of the department. The Engineer further certifies that this agreement is not barred because of a conflict of interest pursuant to Texas Government Code, Section 2261.252, between it and the State. Specifically, the Engineer certifies that none of the following individuals, nor any or their family members within the second degree of affinity or consanguinity, owns 1% or more interest, or has a financial interest as defined under Texas Government Code, Section 2261.252(b), in the Engineer: any member of the Texas Transportation Commission, TxDOT's Executive Director, General Counsel, Chief of Procurement and Field Support Operations, Director of Procurement, or Director of Contract Services. The firm shall exercise reasonable care and diligence to prevent any actions or conditions that could result in a conflict with the department's interests.

B. Certification Status. The Engineer certifies that it is not:

1. a person required to register as a lobbyist under Chapter 305, Government Code;
2. a public relations firm; or
3. a government consultant.

C. Environmental Disclosure. If the Engineer will prepare an environmental impact statement or an environmental assessment under this contract, the Engineer certifies by executing this contract that it has no financial or other interest in the outcome of the project on which the environmental impact statement or environmental assessment is prepared.

D. Commencement of Final Design. This contract does not obligate the State to proceed with final design for any alternative. On completion of environmental documentation, the State will consider all reasonable alternatives in a fair and objective manner. Notwithstanding anything contained elsewhere in the contract or in any work authorization, the Engineer may not proceed with final design until after all relevant environmental decision documents have been issued.

E. Restrictions on Testing. If the Engineer will perform commercial laboratory testing under this contract, on any project the Engineer may not perform more than one of the following types of testing:

1. verification testing;
2. quality control testing; or
3. independent assurance testing.

ARTICLE 34. OFFICE OF MANAGEMENT AND BUDGET (OMB) AUDIT REQUIREMENTS

The parties shall comply with the requirements of the Single Audit Act of 1984, P.L. 98-502, ensuring that the single audit report includes the coverage stipulated in 2 CFR 200.

ARTICLE 35. DEBARMENT CERTIFICATIONS

The parties are prohibited from making any award at any tier to any party that is debarred or suspended or otherwise excluded from or ineligible for participation in Federal Assistance Programs under Executive Order 12549, "Debarment and Suspension." By executing this agreement, the Engineer certifies that it is not currently debarred, suspended, or otherwise excluded from or ineligible for participation in Federal Assistance Programs under Executive Order 12549. The parties to this contract shall require any party to a subcontract or purchase order awarded under this contract to certify its eligibility to receive Federal funds and, when requested by the State, to furnish a copy of the certification.

ARTICLE 36. E-VERIFY CERTIFICATION

Pursuant to Executive Order RP-80, Engineer certifies and ensures that for all contracts for services, Engineer shall, to the extent permitted by law, utilize the United States Department of Homeland Security's E-Verify system during the term of this agreement to determine the eligibility of:

1. All persons employed by Engineer during the term of this agreement to perform duties within the State of Texas; and
2. All persons, including subcontractors, assigned by Engineer to perform work pursuant to this agreement. Violation of this provision constitutes a material breach of this agreement.

ARTICLE 37. RESTRICTIONS ON EMPLOYMENT OF FORMER STATE OFFICER OR EMPLOYEE

The Engineer shall not hire a former state officer or employee of a state agency who, during the period of state service or employment, participated on behalf of the state agency in this agreement's procurement or its negotiation until after the second anniversary of the date of the officer's or employee's service or employment with the state agency ceased.

ARTICLE 38. NON-DISCRIMINATION PROVISIONS

A. Relocation Assistance: The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects.

B. Disability:

- a) Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. § 794 et. Seq.), as amended, prohibits discrimination on the basis of disability; and 49 CFR Part 27.
- b) Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by the Department of Transportation regulations at 49 C.F.R. parts 37 and 38.

C. Age: The Age Discrimination Act of 1974, as amended, (42 U.S.C. § 6101 et. Seq.), prohibits discrimination on the basis of age.

D. Race, Creed, Color, National Origin, or Sex:

- a) The Airport and Airway Improvement Act of 1982 (49 U.S.C. § 4.71, Section 4.7123), as amended, prohibits discrimination based on race, creed, color, national origin, or sex.
- b) The Federal Aviation Administration's Nondiscrimination state (4 U.S.C. § 47123) prohibits discrimination on the basis of race, color, national origin, and sex.
- c) Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et. seq.), prohibits discrimination on the basis of sex.
- d) Title IX of the Education Amendments of 1972, as amended, prohibits discrimination because of sex in education program or activities (20 U.S.C. 1681 et. seq.).

E. Civil Rights Restoration Act: The Civil Rights Restoration Act of 1987 (PL 100-209), Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs and activities" to include all of the programs or activities of the Federal-aid recipients, subrecipients and contractors, whether such programs or activities are Federally funded or not.

F. Minority Populations: Executive Order 12808, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which limits discrimination against minority and low-income populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations.

G. Limited English Proficiency: Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, the Engineer must take reasonable steps to ensure that LEP persons have meaningful access to its programs (70 Fed. Reg. at 74087 to 74100).

ATTACHMENT A-1**Key Personnel**

The Engineer agrees to the key personnel and the dates and duration of their dedication to the contract and will comply with Attachment A, General Provisions, Article 9, Personnel, Equipment, and Material, Paragraphs C and D.

These individuals agree to be available to work on this contract and to co-locate with the Strategic Projects Division as required by the State.

Title	Date/Duration
Project Manager	Execution Date through November 20, 2020
Deputy Project Manager	Execution Date through November 20, 2020
Senior Engineer (Plan Review)	Execution Date through November 20, 2020
Senior Engineer (Cost Estimating)	Execution Date through November 20, 2020
Senior Contract and Claims Manager	Execution Date through November 20, 2020

ATTACHMENT B

SERVICES TO BE PROVIDED BY THE STATE

The State will provide to the Engineer hereinafter identified as the General Engineering Consultant (GEC) or Engineer the following items:

1. Basic (Non-Project Specific) Roadway design requirements.
2. Horizontal control points. In the event horizontal controls points are unavailable or disturbed, the GEC shall re-establish horizontal based on the Texas State Plane Coordinate System.
3. Benchmark elevations and descriptions for vertical control.
4. All related data the State has on file concerning the subject project.
 - a. Contact prints of photogrammetric projects.
 - b. Available reproducible and a copy of the GeoPak files of existing planimetrics and schematics.
 - c. Available original roadway cross-sections.
 - d. As-Built plans.
5. Interface data for any projects adjacent to subject project.
6. Right of way maps and any recent available right of way appraisals for the project corridors, if available.
7. Assist the GEC, as necessary, in order to obtain the required data and information from other local, regional, State and Federal agencies.
8. Provide the GEC with timely review and decisions necessary in order to permit the Engineer to maintain the contracted project schedule.
9. Make available to the GEC the appropriate project files.
10. Existing roadway cross-sections in GeoPak format (if available), or existing Digital Terrain Model (DTM) if available, both on CD and on reproducible paper at the required scale and intervals for limits of the projects.
11. Half-scale paper prints and electronic copies of the State's and its District standards in English units.
12. Originals of existing construction plans and/or as-build plan sets for State facilities, to be used to make necessary copies then returned to the State as soon as possible, if any.

13. Traffic data including:
 - a. Existing current Average Daily Traffic (ADT) volumes along the corridors.
 - b. Forecasted ADT volumes on the future system.
 - c. If available, corridor analyses showing directional distributions and volumes on main lanes, frontage roads, ramps, managed lanes and side streets with turning movements.
14. Available and all applicable special specifications, special provisions, and updated list of bid items applicable to the project.
15. Available existing traffic counts and design year traffic projects necessary to develop the traffic control plans.
16. Assist the GEC in negotiations with all utility companies for any agreements and relocations required.
17. Available "Level B" information from existing Subsurface Utility Engineering (SUE) investigations.
18. Applicable pavement design data such as traffic analyses and projections, falling weight deflectometer data, geotechnical investigations, criteria and specifications for designing or ensuring the adequacy of payment designs.
19. Drainage study conducted for the corridor.
20. All permits and approvals shall be handled through the State's District's where the work is to be performed. The GEC shall provide review of applications and other technical advice on the subject of permits and approvals of affected jurisdictions.
21. Geotechnical Report.
22. Inspection and Materials Management System (I2MS) Software base code. This is project specific and will need to be modified by the GEC.
23. Existing schematics, geometric layouts, horizontal and vertical alignments for the corridors in both paper and electronic format on CD.
24. Existing environmental documents prepared for the corridors, including the final environmental impact statement (FEIS), any environmental permits, or hazardous material investigations prepared.
25. The State's file management and document retention requirements.
26. State's current Strategic Office operations (SPO) manual.
27. Public Information Office (PIO) contact and / media contact for all public information releases.

ATTACHMENT C

SERVICES TO BE PROVIDED BY THE ENGINEER

I. INTRODUCTION

The General Engineering Consultant Program Manager (GECM) is a part of a team of General Engineering Consultants (GECs) made up of the GECM, the General Engineering Consultant for Design (GED), the General Engineering Consultant for Construction (GEC), and the General Engineering Consultant for Operations and Maintenance (GECM) to support and act as an extension of the STATE. The GECM will be responsible for making this team work as a cohesive unit.

The Engineer, identified as the General Engineering Consultant Program Manager (GECM or Engineer), shall assist the Texas Department of Transportation, identified as the STATE, in procurement, scheduling, budgeting, administration, design, construction, operations, and maintenance of Alternative Delivery Projects (ADP), and oversight of firms contracted to deliver ADPs, from this point forward identified as the ADP Firm and whose responsibility is to design, build and/or maintain a project. The GECM shall be responsible for supporting the STATE and the Procurement Engineers (PE) during feasibility, pre-procurement, procurement, and implementation stages of ADP projects; overseeing and auditing functions of design, construction, operations, and maintenance. The GECM shall also be responsible for administrative functions including setting up the project office to be co-located with the ADP Firm team.

GENERAL

The GECM shall provide the following services for multiple projects located within the STATE:

- Environmental studies, document preparation and review
- Advanced planning including route studies, schematic design and development, and traffic modeling
- Planning studies including master and strategic development plans and Value Engineering studies
- Preliminary Engineering and project feasibility studies
- Public involvement and public relations services
- Toll System and Intelligent Transportation System (ITS) planning, design and implementation
- Field surveying and photogrammetry
- Right-of-way (ROW) surveying and mapping
- Hydraulic and drainage studies and review
- Geotechnical services
- Utility management and coordination
- Subsurface utility exploration (SUE)
- Plans Specifications, & Estimates (PS&E) development, preparation and review
- Bridge design and review

- Provide Engineering and planning support for the procurement effort, project and contract management, oversight, scheduling, administration, review and coordination of all design and construction activities performed by the Comprehensive Development Agreement (CDA) or Design Build Agreement (DBA) ADP Firm and Comprehensive Maintenance Agreement (CMA or COMA) ADP Firm for various projects
- Financial plan and program management plan development and reviews for compliance with Federal Highway Administration (FHWA) guidelines and legislative requirements
- Program implementation plan preparation and reviews
- Construction management, inspection and testing including owner verification testing, and inspection (OVTI) services
- Quality acceptance/quality control (QA/QC) and process auditing services
- Cost Estimating services for total project costs
- Support for bond issuance and reporting
- Project Office Operations and Management

The GECP shall function as an extension of the STATE's resources by providing qualified technical and professional personnel to perform the duties and responsibilities assigned under the terms of this Agreement. The GECP shall work to minimize, to the maximum extent possible, the need for the STATE to apply its own resources. The GECP project manager shall function as program director (PD) for all GECP personnel including individual Project Managers (PM) and Task Leaders (TL) involved in multiple and concurrent work authorizations (WA).

For project management of ADP or major projects as defined by the FHWA, the GECP could be staffed in offices located at designated Strategic Projects Division facilities including designated regional Strategic Projects Offices within the STATE or at the assigned project site furnished by the ADP Firm once work begins. Core staff will be identified and housed at the designated office location(s) as noted within individual work authorizations. Most of the engineering work is expected to be performed on site at the GECP offices co-located with the STATE. Some work may be performed off site and the appropriate negotiated overhead rate would apply.

Confidentiality Agreements shall be signed for each project by all employees performing work as the GECP in support of STATE projects.

The GECP shall prepare and maintain an electronic document management system to collect, assemble, manage and maintain all documents pertinent to the project. This shall include paper copies of all written and electronic correspondence. Standard STATE file management and file retention practices shall be used for this information and data.

The GECP shall review all news releases and other public release information prepared by ADP Firms. The GECP shall periodically monitor the ADP Firm's or third party's website and social media for accuracy and completeness of details related to the project and reports any inaccuracies to the STATE for all assigned projects or corridors.

The STATE provides no guarantee that any or all of the services described in this Contract shall be assigned to the GECP. None of the services described in this contract shall be assigned except by way of an executed

work authorization. The STATE, at its option, may elect to have any of the services set forth herein performed by other consultants under contract with the STATE or by the STATE's internal staff.

This contract shall include multiple project corridor assignments divided into several program development stages as follows:

- Program Management Oversight (PMO)
- Planning and Environmental Development
- ADP Firm Procurement Support
- Design Development and Management Oversight (DMO)
- ADP Firm Implementation Oversight
- Construction Management Oversight (CMO)
- Operations and Maintenance Oversight

The GEC shall perform the following tasks by function code:

MANAGING CONTRACTED ADVANCED PROFESSIONAL ENGINEERING SERVICES (Function Code 145)

The GECP shall perform PMO, oversee and audit deliverables prepared by the ADP Firm, participate in ADP Firm meetings, and facilitate meetings between the STATE and the ADP Firm; prepare and submit project reports and documents as described herein and as otherwise requested by the STATE. The GECP shall support the STATE by coordinating with STATE ROW Division forces for the oversight of the ADP Firm's ROW mapping, surveying controls; utility coordination, utility engineering, and development of utility agreements. The GECP shall support the STATE and oversee the public involvement, third party stakeholder interaction, and operation and maintenance transition program. The GECP's oversight responsibilities shall include monitoring, auditing, commenting, and reporting on the ADP Firm's compliance with project requirements as defined by the STATE. The GECP shall provide recommendations where applicable to aid the STATE in its decision-making and approval process. The GECP shall facilitate the STATE's plan to complete the ADP in compliance with its requirements, schedule, and budget.

The GECP and the STATE's Project Manager shall be the single point of contact between the STATE and the ADP Firm. The STATE, at its option, may elect to expand, reduce, modify or delete the extent of each work element as described in the contract.

The GECP shall perform Project Management Oversight (PMO) which shall include:

A. MOBILIZATION and DEMOBILIZATION

Mobilization is a temporary period which consists of activities and costs in connection with preparatory work and operations necessary for the movement of the GECP's personnel, equipment, supplies, and incidentals to initiate the GECP's Services necessary for work on the project; and for all other work or operations that the GECP must perform when beginning work on the Project.

Mobilization allows the GECP to install the necessary human and other logistical arrangements to undertake the Services. These include the physical mobilization as well as delegation and support by STATE management staff to enable the GECP to deliver the Services.

The GECP shall be responsible for providing space within its existing office facilities for GECP personnel from the GECP contract Notice to Proceed (NTP) until the ADP Firm's co-located office space is available for use (estimated availability is within 60 days of the ADP Firm's NTP-1).

1. MOBILIZATION COMMENCEMENT

Mobilization of Key Personnel, equipment, and any required facilities shall commence immediately upon execution of the GECP contract, and upon receipt of NTP from the STATE. Other direct expenses must receive approval by the STATE prior to incurring the expense.

Office space within the GECP's existing facility(ies) shall be available within 30 days, or in a time period approved by the STATE's PM, of the execution of the GECP's applicable work authorization and remain in place and fully functional until the GECP staff have relocated to the ADP Firm's project office site in accordance with the ADP contract.

2. TEMPORARY OFFICE SPACE

If requested by the STATE, the GECP shall provide temporary office space for the STATE's two (2) management staff in its office until such time as the ADP Firm has its project office in place. The STATE's temporary office space shall include four covered parking spaces for the two TxDOT management staff and for two TxDOT visiting staff, office access during normal business hours, wireless broadband internet access, and use of standard office furniture, fixtures and equipment such as printer, plotter, break rooms, conference rooms, common areas, and restrooms. An office safety plan shall be provided to the STATE management staff for use and reference.

3. MOBILIZATION AND DRAFT DEMOBILIZATION PLAN

The GECP shall prepare a full Mobilization Plan and shall submit it to the STATE's Project Manager within thirty (30) days of the project work authorization execution or in a time period approved by the STATE's PM. A draft Demobilization Plan shall be submitted ninety (90) days prior to substantial completion or in a time period approved by the STATE's PM.

The Mobilization Plan shall describe the following as a minimum:

- a) GECP Services description
- b) Mobilization Scope of Work (shall be included in the GECP's Project Implementation Plan (PIP))
- c) Key Personnel roles and responsibilities
 - i. Key Personnel biography including length of service with GECP organization, technical competencies, position in the GECP organization and location of Service.
 - ii. Estimated start date/finish date for each key position.
- d) Mobilization Work Breakdown Structure (WBS) and time dependent schedule
- e) List of deliverables to be submitted within the Mobilization Plan

The final Mobilization Plan shall be issued to the STATE's Project Manager.

An Authorization to Mobilize (AtM) request letter must be provided to the STATE's Project Manager for approval. The AtM process applies to all permanent personnel mobilizing from outside the city in which the ADP Firm's project office will be located following Notice to Proceed.

4. GECP STAFF TRANSITION

Transition GECP staff and STATE management personnel from temporary office space to the ADP Firm's project office in accordance with the mobilization plan. Transition shall take no longer than seven (7) days, at which time the GECP staff shall be established and fully functional in the ADP Firm's project office. Following transition to the ADP Firm's project office, it is understood that the ADP Firm shall be responsible for all office facilities, furniture, fixtures, insurances, building access security, parking, utilities, landline telephone communications, and hardware/wireless broadband connectivity for the GECP and STATE management personnel. Demobilization is the period prior to the completion date of the contract.

5. DEMOBILIZATION PLAN

The GECP shall, at least ninety (90) Days prior to the time for substantial completion or in a time period approved by the STATE's PM, prepare and submit to the STATE's Project Manager a Plan for effecting demobilization. The Demobilization and Transfer plan shall set out, in such a manner as the STATE's Project Manager may direct, the sequence in which, and dates by which, the GECP proposes to perform its demobilization obligations under the contract and the date(s) by which the GECP reasonably requires that the STATE should provide any further documentation or information or take any other action to permit the GECP so to perform its demobilization obligations.

The demobilization, which is the removal of personnel and equipment from the project office, shall encompass, as a minimum, the following:

- a) Provisions to ensure that nonessential expenditure is reduced as rapidly as possible;
- b) The provision to the STATE's Project Manager of a full and complete set of all documents and deliverables;
- c) The return to the STATE of facilities, information and equipment supplied, pursuant to the contract or the depreciated cost of which has been included in any invoices or applications submitted by the GECP;
- d) Provisions to ensure that final accounting is provided to allow the STATE's Project Manager to determine the amount due to the GECP for Services;
- e) Provisions to ensure that training and competency / body of knowledge transfer are effected as required under the Demobilization and Transfer Plan;
- f) Provisions to ensure that the transfer of Intellectual Property Rights is carried out in accordance with the relevant provisions of the contract.
- g) Plans to transfer the oversight management of the ADP Firm's Operations and Maintenance (O&M) services to the STATE or the delegated party of the STATE;
- h) Transition plans with respect to GECP personnel;
- i) Close out of all other GECP contractual obligations relative to the contract.

Deliverables:

1. Mobilization
2. Demobilization Plan
3. Office Relocation Plan
4. Close Out of All Project Documents
5. Four final Project Closeout Reports – one for each GECP Service category (PMO, DMO, CMO, and Maintenance Transition Oversight).

B. Program Management and Administration

Members of the GECP Leadership and Management Team are considered key personnel for this project and are to be co-located with the STATE. The following positions are expected to be filled by the GECP, as determined by the STATE, to accomplish the responsibilities conveyed in this contract:

- GECP Project Manager
 - GECP Deputy Project Manager(s)
 - Project Controls Manager
 - Project Assurance Manager (combined with another position)
 - Contracts Management and Claims Manager (combined with another position)
 - Maintenance Transition Oversight Manager (combined with another position)
1. As a management team, leadership positions for the PMO and CMO shall meet not less than once monthly with the STATE's Project Manager (PM) to discuss the contracts progress and applicable work authorizations assigned, to identify areas of potential risk or opportunity and recommend strategies to minimize losses, optimize efficiencies, and maximizes opportunities.
 2. Electronic Network: The GECP shall establish, and maintain, an electronic web-based network for communications within the GECP Team, the STATE, the FHWA, and other identified third parties as approved by the STATE including assigning and managing individual user accounts. The electronic communications network shall be integrated for multiple project corridors and to facilitate reporting to the STATE. The network shall provide a link to critical project controls, documents, and applicable reference materials. The necessary programming shall be coordinated with the STATE and the access criteria and communications tools set up for team members and identified STATE personnel to have controlled access with password security. The GECP shall maintain a list of all users and file security level clearance as approved by the STATE. The GECP shall provide full time staff in the Project Office to troubleshoot the electronic system, resolve performance or access issues, and establish and maintain the internal computer network
 3. Communication and Partnering Workshops: The GECP shall provide for facilitation of communication and partnering workshops to strengthen relationships and overall program delivery including workshops, either individually or together, for projects or corridors, that shall include the following:
 - FHWA or other federal agency representatives
 - STATE's and Strategic Project Division (SPD) personnel and senior management
 - STATE Division personnel and staff

- ADP Firm personnel and staff
 - Contractors
 - ROW Acquisition Provider (ROWAP) teams
 - Utility Companies
 - Third Party Agencies such as counties, local toll road agencies or authorities, local flood control administrators or jurisdictional agencies. STATE flood control administrators or jurisdictional authorities, local cities, local and STATE public agencies and other third parties as identified by the STATE.
4. Meeting Records: The GECP shall document all meetings held, both internally and externally, as related to the work authorization assignments for this contract, including a record of attendees, agendas, and summary of discussions, action items, and decisions as applicable. The GECP shall maintain these records electronically in the document management system. A summary of meetings, attendees, and topics shall also be included in a Quarterly Program Status Report submitted to the STATE's PM.
 5. Office Operations: The GECP shall provide administrative assistants to support the STATE PM and GECP staff in the PMO and CMO and in field PMOs or CMOs as defined in work authorizations. These personnel shall be responsible for the office management, staff scheduling and coordination, preparing program and project reports, maintaining files, updates to the STATE's Strategic Project Office (SPO) operations manual, and preparing correspondence in accordance with STATE standard operating procedures.
 6. Secured Project Office: As requested by the STATE, Establish and maintain an agreed upon furnished and secured project office, including administrative support services, computers, network server(s) with back-up, telephones wireless broadband high-speed internet access with an appropriate level of bandwidth based on the number of users, internet, telecommunication systems, software licenses, and hardware, printers, plotters, and other equipment and office supplies necessary to perform engineering services in support of this contract. The Engineer shall ensure that computer and telecommunication systems are compatible with STATE equipment and standards.
 7. Training Development and Implementation: Develop and implement a training program to address critical areas of procurement and project delivery for the purposes of consistent, proper implementation of the procurement and contract documents, cross-discipline training, succession planning, and enhancement and furtherance of a quality program.

Deliverables:

The GECP shall provide to the STATE:

1. Up to date Leadership and Management Team organizational chart with responsibilities identified by work authorization.
2. Written confirmation of network system and an operational flow chart including support desk contact information.
3. Meeting agendas, sign-in sheets, and record of meeting notes. Meeting notes shall be provided within five (5) working days following the subject meeting.

4. New, updated, or revised procedures and forms as recommended and approved for inclusion in the SPO manual or Strategic Projects Division (SPD) identified standards of operation.
5. Reports, documentation, and graphics as required in support of the operations of the SPO. Meeting agendas, record of meeting notes, project schedules, reports, and documentation as determined by project control processes and as required to document meetings or workshops.
6. Record of all contracts, PMO and CMO personnel assignments, and work authorizations including all sub-consultant agreements.
7. Operating PMO, CMO or field PMOs or CMOs with assigned staff as approved by the STATE in writing. GECP shall prepare training material to include content, process, and tools which apply to programmatic and project-specific levels.
8. Trainers to act as an extension of the STATE for presentation of training material.
9. Training and reference materials bound in a three-ring notebook and in electronic format for distribution to trainers and personnel being trained.

C. Program Scheduling

The GECD shall:

1. Develop and maintain a Project Controls System to oversee the ADP Firm's schedules and payments. TxDOT shall have access to the system. Include in the system:
 - a. Project Baseline Schedules (PBS): Analyze the ADP Firm's PBS for compliance with the Design Build Agreement including Technical Provisions. Submit a PBS Schedule Review Report addressing: contract compliance, schedule logic, production rates, critical/longest path and resource and cost loading. Provide a recommendation for schedule acceptance, conditional acceptance or rejection.
 - b. Monthly Schedule Updates: Analyze the ADP Firm's monthly schedule updates and submit a Monthly Schedule Update Review Report. Include:
 - i. An analysis of schedule slippage or gains in the previous month's critical/longest path and the current updates critical path.
 - ii. Oversight of schedule progress certification process by QA firm.
 - iii. A schedule and budget variance analysis.
 - iv. An analysis of the effects of weather on the construction progress.
 - v. An analysis of changes made to the schedule including but not limited to: changes to activities, durations, logic, calendars and resource and cost loading. Also analyze changes made to address out-of-sequence work.
 - vi. Analyze and track issues and provide independent time impact analyses when requested.

- c. Schedule Revisions: Analyze ADP Firm's PBS revisions and provide a recommendation for acceptance, conditional acceptance or rejection.
 - d. Time Impact Analyses (TIA): Analyze and track potential delay issues. Provide recommendations as to when to request a TIA from the ADP Firm. Analyze ADP Firm prepared TIA's in accordance with the scheduling technical provisions and submit a TIA report with a recommendation for disposition. Perform independent TIA's when needed or when requested by TxDOT and submit a TIA report.
 - e. Other Scheduling Services
 - i. Provide schedule coordination services with adjacent projects and other agencies or their contractors working within the project site.
 - ii. Provide general Primavera scheduling support.
 - iii. Prepare integrated schedules for assigned projects or corridors using Primavera software to represent tasks assignments and work flow for STATE resources including consultant personnel from GECs and to include third party tasks when applicable to maintaining or meeting project schedule goals.
2. Maintain a Project Risk Register in a format provided by TxDOT based on the ADP Firm's contracted scope and schedule.
- a. DEVELOPER INVOICE REVIEW PROCEDURE: The GECP shall review all invoices submitted by the ADP Firm and check for compliance with the ADP Firm's Agreement requirements. The GECP shall forward the invoice package to the STATE's Strategic Projects Office for final approval and further processing.
 - b. PROJECT COST MANAGEMENT: The GECP shall track, review, and comment on the ADP Firm's project costs during design and construction. The GECP shall review the ADP Firm's proposed cost effectiveness strategies and mechanisms for cost containment and provide recommendations for the approval by the STATE.

Deliverables:

The GECP shall:

- 1. Submit a Project Controls section of the Project Implementation Plan (PIP) to include: internal budget, schedule management, processing of the ADP Firm's invoices, document control, and IT systems setup, operation, maintenance, decommissioning and transfer.
- 2. Establish a GECP file back-up server with security protocol. Deliverable includes an IT setup, service and user protocol plan.
- 3. At the STATE's request, establish and maintain a project domain and email account for the STATE project manager and GECP key personnel to satisfy the electronic communications system requirements. Establish the GECP project controls system for oversight of schedule. Deliverables include a project schedule setup, service and user protocol plan.

4. Establish the GECP project controls system for oversight of project costs. Deliverables include a project budget setup, service and user protocol plan.
5. Establish an electronic content management (ECM) system in accordance with TxDOT standard protocols and procedures including required security, versioning, and work flow. Deliverable includes ECM setup, service and user protocol plan.
6. Submit action notes and meeting notes for Project Controls Oversight for entire Project. Action and meeting notes include document control, IT, commercial, scheduling, budgeting, and project controls management.
7. Submit a risk register containing the results of risk assessment workshops and periodic risk register reviews and recommended updates.
8. Submit monthly progress reports for schedule and budgets, IT, commercial, and document control progress (typically in coordination with monthly invoices).
9. Submit a Master Program Schedule baseline for GECP activities and milestone ADP Firm activities.
10. Monitor the ADP Firm's schedule for tracking and task scheduling. Deliverable includes meeting and action notes.
11. Monitor the GECP budget for tracking and task costs by WBS. Deliverable includes meeting and action notes incorporated in monthly progress reports, unless requested more frequently by the STATE's Project Manager.
12. Submit meeting and action notes of all project control functions via the GECP's ECM.
13. Submit variance memoranda for any non-compliance's for risk assessment and the Corrective Actions Plan via the GECP's ECM.
14. Prepare project control agenda and meeting notes for the monthly progress update with the STATE.
15. Submit review comments for ADP Firm's invoice backup submittals within 5 days of the ADP Firm's invoice submittals.
16. Submit ADP Firm's invoice for processing following compliance review.
17. Submit a final closeout report of Project Controls activities at end of Project

D. Financial Plan

The GECD shall:

1. Develop or review Financial Plans: The GECP shall develop, prepare or review financial plans required to be submitted to the FHWA, for assigned major projects or corridors. Plan elements shall address:

- a. Costs Estimates including basis of estimates, year-of-expenditure projections, assessment of risks and contingencies with supporting documentation.
 - b. Methodology and Approach for developing costs estimates, validation of estimates and revalidation of estimates.
 - c. Transition from Planning stage to ROW acquisition to Design to Construction.
 - d. Public Involvement and Outreach strategies.
 - e. Metropolitan Planning Organization (MPO) coordination
 - f. Project or Program delivery type, potential financing, and funding.
 - g. Assessment of construction materials and resources versus proposed bidding and construction schedules.
 - h. Third party related costs for Railroad (RR) agreements and utility adjustments and relocations.
2. Provide or review Annual Financial Plan Updates for assigned major projects or corridors.
 - a. Program status and expenditures to date.
 - b. Analyze cost and revenue trends that have impacted project costs and revenues during the previous year.
 - c. Develop, when necessary, revenue shortfall mitigation strategies to minimize impacts on scheduled project delivery.
 - d. Prepare a summary of significant cost reductions that shall affect the cost of the project.
 - e. Prepare a summary of significant cost increases that shall affect the cost of the project.

Deliverables:

The GECP shall provide to the STATE:

1. Initial Financial Plan reports.
2. Annual Updates of applicable Financial Plans.
3. Written assessment and review of financial plans submitted by others for compliance with FHWA guidelines and STATE policies and procedures.
4. Reports and summaries of cash flows including assigned funding, cost to date expenditures, and estimates to complete.

E. Project Controls and Project Implementation Plan (PIP)

1. Project Implementation Plan (PIP)

The GECP shall prepare a written Project Implementation Plan (PIP) in accordance with FHWA guidelines that shall contain the project management oversight policies and procedures based on the STATE's established criteria and standards. The PIP is to be the STATE and GECP's guiding document for operational oversight and shall include all sections and supporting plans as required for the assigned corridor to include summary of GECP's goal and objectives, declaration of deliverables, communications plan, responsibility matrices, project controls plans, project assurance management plans, risk management plans, document management plans, operations management plans, funding approach, quality control and assurance plans, and other required plans as requested by the STATE.

The GECP shall review and confirm compliance of an ADP Firm's Project Management Plan (PMP) with applicable CDA, DBA and STATE requirements, including current Legislative requirements and FHWA published guidance documents. Any compliance deviations shall be communicated to the STATE. The ADP Firm's Project Management Plan shall document the procedures and processes that are in affect to provide timely information to the project decision makers to effectively manage the scope, costs, schedules, and quality of, and the Federal requirements applicable to, the project; and the role of the agency leadership and management team in the delivery of the project. The Developer's PMP shall also provide background summary on services performed on the Program to date by STATE and others and shall be provided to the GECP for initial review as required to meet FHWA submittal and schedule requirements.

2. SharePoint® Electronic Content Management (ECM) and Communications Systems

The GECP shall develop, implement and maintain, for the duration of the contract, a secure program management system in SharePoint (SP) with an ECM and communications system, which shall control and provide electronic management to support distribution and receipt of all GECP and STATE related correspondence, including communications, reports, plans, and technical data on a secure permission level access basis. The ECM shall allow for access of its contents at all times except during periods of maintenance or repair.

The ECM shall also comply with STATE Special Project Office Library Standards and, and interface with the STATE's ECM systems to provide the effective electronic recording of information recognizing appropriate security, versioning, and protocol issues.

The GEC shall provide the following:

- a. Configure, acquire and install PC-based, network-connected computer systems suitable to provide the services required by the STATE.
- b. Develop necessary management information systems as requested by the STATE.
- c. Provide technical support for the development, configuration, implementation, updating and maintenance of the Strategic Project/Document Management and Communication System (SP/DMCS) as requested by the STATE.
- d. Provide Information Technology support, development, maintenance and updates, to include but not limited to:
 - i. Supporting hardware (servers, desktops, laptops and other IT devices).
 - ii. Software (operating systems, productivity and analysis).
 - iii. Phone system (IP desktop phones and conferencing equipment).

- iv. Security system (electronic badge system and security).
 - v. Other systems as developed or requested by the STATE.
 - vi. Provide coordination of IT technical support.
 - vii. Develop special presentations, multi-media work and graphic support, as requested by the STATE.
3. Develop and manage a Cost Control System for the project including:
 - a. The GECP shall develop and maintain a Cost Control system and total Project Cost Estimate Validation Process. This shall be developed in three steps to describe the risks and opportunities related to cost and schedule on the program:
 - The Baseline Development Costs including a wide-variety of project costs that range from existing geotechnical conditions; right-of-way acquisition; utility mitigation and relocations; aesthetics and environmental mitigation. Preliminary estimates developed to date shall be collected and supplemented to capture all elements anticipated to impact overall program costs.
 - Development of initial conceptual quantities of work, compilation and review of historic STATE unit price data, detailed estimates for project-specific items where historical data is not available, use of traditional STATE allowances and contingencies, and recommendations for methodology on contingencies, review of trends that impacted cost and schedule of other corridor programs in the STATE.
 - Assessment of risks and opportunities associated with the program, related to: scope, normal escalation, geotechnical exposure from differing site conditions, environmental considerations, outside political influence, site and weather-related conditions, construction method exposure, projected market conditions, compression of the schedule and alternative procurement methods.
 - b. Life Cycle Cost Analysis shall be conducted to analyze the life cycle costs of various systems or components of the work. These studies shall look at the initial cost of construction versus the cost of maintaining and operating over the anticipated life. These studies shall assist the design process by providing a better understanding of the cost impact of particular components of the design, since initial costs of a component should not be the sole determining factor in the selection process of a particular design methodology. The Life Cycle Cost Analysis shall be performed several times throughout the life of the project.
 - c. FHWA Cost Estimate Review and Risk Assessment (CERA) Workshops. The GECP shall prepare and submit data in FHWA required formats, schedule, and facilitate FHWA Cost Estimate Review workshops for major project or corridors to support validation of estimates and support development of funding and financing approaches for major projects or corridors to comply with STATE and Federal guidelines and legislative requirements. Personnel experienced with crystal ball software and FHWA requirements shall be provided to support these workshops.
4. The Engineer shall establish a Program Controls team and shall include at a minimum the following positions, which are expected to be filled by the GECP to accomplish the responsibilities conveyed in this contract:
 - a. Program Controls Manager (Engineer Leadership and Management team member).
 - b. Document Control Manager, Senior Document Control Specialist, Document Control Specialist

- c. Contracts Specialist
- d. Information Technology (IT) Specialist
- e. Schedule Manager, Schedule Specialists
- f. Administrative Specialist
- g. Program Reporting Specialist

The GECP shall develop and manage a system of Program Controls to control its internal budget, schedule and documents. All Program Controls activities shall be reported to the STATE on a regular basis, not less than monthly, in accordance with the PIP. Any compliance deviations by the ADP shall be *communicated as and when identified and shall be further addressed in the Corrective Actions Plan*. The GECP's Project Control functions shall be managed by a Project Controls Manager, acting as a member of the GECP's management group. The GECP shall appoint sufficient document control managers and specialists who are appropriately trained in electronic records management, document management, and data tracking in the SP/DMCS and the STATE's ECM.

The GECP shall participate in the project controls process for projects as those roles, processes and responsibilities are determined between the State and the Project Team and in accordance with SPD procedures. These could include, but are not limited to the following:

- 1. Project Scheduling
- 2. Document Management (Electronic Content Management)
- 3. Cost Control
- 4. HUB/DBE Participation
- 5. Environmental Support
- 6. Preliminary Design
- 7. Utility Coordination and Relocation Activities
- 8. Right-of-Way Coordination and Acquisition Services
- 9. Quality Assurance
- 10. Quality Control
- 11. Quality Management or Oversight
- 12. Reporting and Auditing
- 13. Design Review
- 14. Design Oversight Support
- 15. Contractor Invoicing Support
- 16. Project Communications
- 17. Change Management Support
- 18. Contract Interpretation and Compliance
- 19. PPP Training and Support
- 20. Development of Presentation Materials

Deliverables:

The GECP shall provide:

- 1. Specific organization of the PIP shall be determined by the FHWA and STATE's Project Manager in collaboration with the GECP Project Manager. The GECP shall develop and submit the initial draft PIP for the STATE Project Manager's review and approval. Upon approval, the PIP shall be reviewed and updated periodically to remain current and relevant throughout the Project's duration. The PIP shall be a fully controlled document. One hardcopy and one softcopy (CD or memory stick)

shall be provided to the STATE's PM and shall be kept current by way of periodic updates provided by the GEC. One hardcopy and one softcopy (CD or memory stick) shall be kept current and made available at the GECP's project office.

2. Separate submittals of sections of the PIP including drafts, final versions, and periodic updates.
3. Financial Plan and PMP, Electronic and Hard Copy format.
4. Financial Plan and PMP updates as required, Electronic and Hard Copy format.
5. Program Controls Manual and supporting communications and work flow procedures, electronic and hard copy.
6. Document Control Manual, electronic and hard copy, and record listing of stored documents upon request.
7. Training Manuals and document of work sessions for Electronic Network access and Document Control procedures.
8. Install, maintain and update a PC based network.
9. Install, maintain and update Information Technology support systems (software, hardware, phones, and security).
10. Develop and implement a project SharePoint®/Resource Management System. Conduct regular maintenance, updates and configuration modifications to the SP/DCMS as required supporting project requirements.
11. Cost Control Procedures and Periodic Program Cost Estimate Updates in accordance with SPD procedures and utilizing SPD templates where applicable.

F. Program Reporting and Audits

1. The GECP shall update the STATE's PM and support team weekly on key tasks accomplished during the past week, meetings and key activities for the upcoming week, and identify outstanding issues requiring resolution. Key tasks will include oversight and audit of the ADP Firm with respect to the ADP contract as well as oversight and audits of the GECD and GECC tasks.
2. The GEC shall prepare monthly reports for each work authorization and applicable invoices noting program progress to date including a percent complete of all scope items, progress, assessment of Program Schedule with update of Summary Master Program Schedule, major tasks accomplished during the previous month, major activities planned for the next 90 days, outstanding issues requiring resolution, DBE or HUB programs as applicable, review program financial status; and update cost-to-complete budgets, as appropriate.
3. The GEC shall prepare a Quarterly Report with an Executive Summary that provides a comprehensive summary of the monthly reports and the overall contract progress. The Quarterly Report shall also report on status of any action items generated by any Audit of the Program.
4. The GEC shall support the STATE in all STATE or Federal audits of assigned projects and provide support for items and records typically covered in an audit by the US DOT Office of Inspector General.

Deliverables:

The GEC shall provide:

1. Weekly program and work authorization reports

2. Monthly program and work authorization reports
3. Quarterly program reports
4. Record of audits including participants, identification of items reviewed and written response to any comments received.

G. Agency Coordination

The GECP shall support the STATE in coordination with and development of any interlocal agency agreements, memorandums of understanding or agreement, and advance funding agreements, including exhibit preparation and supporting document preparation and assembly as requested by the STATE for applicable federal agencies, counties, local toll road agencies or authorities, local or STATE flood control administrators or jurisdictional agencies, or other jurisdictional authorities, local cities, local and STATE public agencies and other third party agencies as identified by the STATE.

Deliverables:

The GECP shall provide:

1. Record of all correspondence and meetings with agencies or agency representatives.
2. Draft and final agreements including memorandums of understanding, memorandums of agreement, advance funding agreements or other agreements as requested by the STATE.
3. Meeting space and supplies for hosting meetings or workshops with agency representatives.
4. Travel, as requested by the STATE, to off-site or agency locations to accommodate coordination efforts, meetings, or workshops.

H. Contract Management

1. SUBCONSULTANT CONTRACT MANAGEMENT

The GECP shall prepare and fully execute contracts with their subconsultants once the GECP contract has been fully executed. Partial execution shall be performed in advance in order to expedite the start of WA activities.

2. GEC TEAM CONTRACT MANAGEMENT

The GECP shall assist the STATE when requested in management and review of the GECD, GECC, and GECM work authorizations and invoices. The GECP will act as an extension of TxDOT staff employing professional courtesy and confidentiality.

3. OFFICE OPERATIONS FOR SPO AND SPD

The GECP shall provide administrative assistants to support the STATE PM, and personnel from the STATE and GECP assigned to SPO and SPD offices. These personnel shall be responsible for the office management, staff scheduling and coordination, preparing program and project reports, maintaining files, updates to the STATE's SPD Director and Department Managers, and preparing correspondence in accordance with STATE standard operating procedures.

Deliverables:

The GECP shall provide to the STATE:

1. Copies of all executed subcontracts and subconsultant work authorizations.

2. Written review comments on GECD, GECC, and GECM contracts and work authorization scope of services. Written audit assessments of adherence of GEC firms to contract and work authorization requirements and SPD procedures and policies.
3. List of assigned office personnel and contact information.
4. Written updates to office procedures and manuals.

I. PROJECT ASSURANCE:

1. Members of the GECP Project Assurance Management shall include at a minimum the following positions, which are expected to be filled by the GECP to accomplish the responsibilities conveyed in this contract:
 - a. Senior Project Assurance Manager (GECP Leadership & Management team member) (combined with another position)
 - b. Stakeholder Oversight Manager (can be combined with Public Involvement Oversight Manager position)
 - c. Public Involvement Oversight Manager, Communications Specialists, Technical Writers
 - d. Health Safety Security & Occupational Environment (HSSE) Manager, HSSE Specialists
 - e. Compliance Audit Manager
 - f. GECP Project Office Operations Manager
 - g. Sr. Administrative Support Specialists ("on the project site")

The GECP's assurance team is responsible for monitoring and reporting on key elements of the ADP Firms activities associated with its operations and management. Compliance Assurance for the ADP Firm's Public Involvement, Stakeholder engagement, and its internal staffing requirements are the Assurance Management team's responsibility. Compliance Auditing includes any aspect of the ADP Firm's Services referenced in the CDA or the ADP Firm's Project Management Plan (PMP) including any requirements of third party financing companies, lenders or the FHWA.

Any compliance deviations by the ADP Firm shall be communicated as and when identified by the appropriate GECP manager to the GECD and GECC Design/Construction Quality manager and shall be further addressed in the Assurance Manager's Corrective Actions Plan. The GECP's Assurance Management functions shall be overseen by a qualified Assurance Manager, acting as a member of the GECP's management group. Development, deployment, operation, maintenance and closeout of the GECP's Project Assurance shall be fully described in the GECP's PIP.

2. QUALITY ASSURANCE OVERSIGHT

The GECP shall ensure that the ADP Firm proposes and implements a quality assurance program in accordance with the ADP and as more fully detailed in the ADP Firm's PMP. The ADP Firm's quality assurance program is intended to monitor and verify that its quality control procedures for design and construction activities are compliant and that it is producing the intended quality results for the project. In accordance with the GECP's PIP, the GECP shall review the ADP Firm's quality assurance and quality control activities to confirm their adherence with the ADP and PMP.

Through weekly and monthly meetings, scheduled audits and unscheduled spot checks (as defined in the GECP's PIP), the GECP shall monitor the ADP Firms progress against the ADP and report on observed variances. Additionally, the ADP Firm's quality assurance sections within their PMP shall be evaluated by the GECP's compliance audit team. Any corrective actions needed to bring

the ADP Firm's quality plan into compliance shall be overseen by the GECP and shall be reported to the STATE.

3. SAFETY COMPLIANCE

If ADP Firm provides notice to the GECP that a provision of the ADP Documents is in error regarding safety, creates a potentially unsafe condition, or is or becomes inconsistent with Good Industry Practice, the GECP shall report the matter to the STATE and monitor the ADP Firm's corrective actions regarding the ADP Firm's proposed cure in accordance with the ADP Firm's PMP.

The GECP shall observe, analyze and report not less than monthly on Safety Compliance by ADP Firm and ADP Firm's performance of Safety Compliance Orders.

The GECP shall consult with STATE and ADP Firm, if requested, regarding the issuance of a Safety Compliance Order.

The GECP shall monitor and observe for the purpose of assessing whether any circumstances exists that warrant issuance of a Safety Compliance Order, and give reports and recommendations to the STATE and ADP Firm with respect thereto. Safety reports shall be provided to the STATE on a monthly basis, and safety compliance reports shall be provided as compliance issues arise.

While on the project site, the GECP shall comply with the ADP Firm's safety procedures, but is otherwise not responsible for the GECP to provide jobsite safety except for the GECP's own employees.

Deliverables:

The GECP shall provide to the STATE:

1. Submit a Project Assurance section of the PIP to include: design and construction quality assurance auditing, environmental oversight, stakeholder and third party oversight, public involvement oversight, health safety and security oversight, and personnel compliance oversight.
2. Establish the GECP project assurance system for design quality assurance oversight. Deliverable includes a design quality assurance oversight setup, service and reporting plan.
3. Establish the GECP project assurance system for construction quality assurance oversight. Deliverable includes a construction quality assurance oversight setup, service and reporting plan.
4. Establish the GECP project assurance system for environmental assurance oversight. Deliverable includes an environmental assurance oversight setup, service and reporting plan.
5. Establish the GECP project assurance system for stakeholder and third party assurance oversight. Deliverable includes a stakeholder assurance oversight setup, service and reporting plan.
6. Establish the GECP project assurance system for public involvement assurance oversight. Deliverable includes a public involvement assurance oversight setup, service and reporting plan.

7. Establish the GECP project assurance system for health safety, security and occupational environment oversight. Deliverable includes an HSSE compliance assurance oversight setup, service and reporting plan.
8. Establish the GECP project assurance system for personnel compliance assurance oversight. Deliverable includes a personnel compliance assurance oversight setup, service and reporting plan.
9. Establish the GECP's office operations protocol. Deliverable includes an office operations setup, service and reporting plan.
10. Submit action notes and meeting notes for Project Assurance Oversight derived from monitoring and verification of the ADP Firm's activities. Action and meeting notes include design and construction quality oversight, environmental assurance oversight, stakeholder assurance oversight, public involvement assurance oversight, health safety and security assurance oversight, personnel compliance oversight, and GECP office operations management.
11. Submit meeting notes and action notes for all assurance management functions via GECP's ECM.
12. Submit progress updates for all assurance management functions.
13. Monthly, prepare project assurance agenda and meeting notes for monthly progress update with the STATE.
14. Submit quarterly program status updates for all assurance management functions.
15. Submit weekly variance memoranda for any non-compliances' for risk assessment and the Corrective Actions Plan via the GECP's ECM.
16. Submit a final closeout report of Project Assurance activities at the end of Project.

J. CONTRACTS MANAGEMENT AND CLAIMS:

1. Members of the GECP Contracts Management and Claims team shall include at a minimum the following positions, which are expected to be filled by the GECP to accomplish the responsibilities conveyed in this Contract:
 - a. Contracts and Claims Manager (GECP Leadership and Management team member)
 - b. Risk Management Task Leader and Specialist (combined with another position)
 - c. Claims Task Leader and Specialists
 - d. Dispute Resolution Specialist (combined with another position)
 - e. Contract Specialists (combined with another position)
2. The GECP shall develop and manage a systematic approach to contract oversight, risk, claims and dispute management. All Contracts and Claims management activities shall be reported to the STATE on a regular periodic basis, not less than monthly, in accordance with the PIP. Compliance

deviations by the ADP Firm shall be communicated as and when identified and shall be further addressed in the Corrective Actions Plan. The GECP's Contract and Claims functions shall be managed by a Professional, acting as a member of the GECP's management group. Development, deployment, operation, maintenance and closeout of the GECP's Contracts and Claims services shall be fully described in the GECP's PIP.

3. The GECP shall review and determine whether the ADP Firm's claims or change requests are in fact valid according to the ADP contract. If the ADP Firm's claim or change order request appears to be justified, the GECP shall provide associated written documentation recommending acceptance by the STATE. If the ADP Firm's claim or change order request is not justified in every respect, the GECP shall provide similar written documentation recommending that the STATE not accept the claim and providing its justification for rejection.
4. Change Management. The GECP shall support the STATE in review of any proposed contract changes and change orders following change management procedures in accordance with the ADP contract and in accordance with the STATE's standard procedures and protocols. Change management shall include change requests initiated by the STATE or initiated by the ADP Firm. The GECP shall support review and provide recommendations concerning justification of proposed change, identification of potential risks associated with a proposed contract change and reasonableness review of associated estimated costs.

Deliverables:

The GECP shall provide to the STATE:

1. Submit a Project Contracts and Claims section of the PIP to include: risk management, contract management, claims management, and dispute resolution services.
2. Establish the GECP project contract and claims system for risk management. Deliverable includes a risk management system setup, service and reporting plan.
3. Establish the GECP project contract and claims system for contracts management. Deliverable includes a contract management system setup, service and reporting plan.
4. Establish the GECP project contract and claims system for claims management. Deliverable includes a claims management system setup, service and reporting plan.
5. Establish the GECP project contract and claims system for dispute resolution. Deliverable includes a dispute resolution system setup, service and reporting plan.
6. Submit action notes and meeting notes for Contract and Claims derived from monitoring and verification of the ADP Firm's activities. Action and meeting notes include risk management, contract management, claims management, and dispute resolution.
7. Submit meeting notes and action notes for all contract and claims management functions via the GECP's ECM.
8. Submit monthly progress updates for all contract and claims management functions.
9. Monthly, prepare contract and claims management agenda and meeting notes for monthly progress update with the STATE.
10. Submit quarterly program status updates for all contracts and claims management functions via the GECP's ECM.

11. Submit weekly variance memoranda for any non-compliance's for risk assessment and the Corrective Actions Plan via the GECP's ECM.
12. Weekly, submit a risk assessment of the non-compliance memoranda to the GECP Projects via the GECP's ECM.
13. Update and submit the Corrective Actions Plan to the GECP Project Manager.
14. Submit a final closeout report of contract and claims management activities at the end of Project.

ROUTE AND DESIGN STUDIES (Function Code 110)

A. Data Collection

The GECP shall collect, review, and evaluate data described below. The GECP shall maintain a log documenting all information gathered, source obtained from, and applicability to the Program. The GECP shall notify the STATE in writing whenever the GECP finds disagreement with the information or documents: Data collections shall include existing plans, schematics, ROW maps, planimetric mapping, environmental documents, existing geotechnical data and boring logs, existing traffic counts, accident data, pavement management information system (PMIS) data, identified endangered species, identified hazardous material sites, drainage impact studies, available flood plain information and studies including TSARP Flood Boundary Maps and hydraulic models, and roadway inventory information, including, the number of lanes, speed limits, pavement widths and ROW widths from the STATE, applicable Cities and the County. The data obtained shall also include adopted land use maps and plans as available, Harris County Tax maps, and subdivision plots, permits, and available public and private utility information.

Deliverables:

The GECP shall provide:

1. Logs of all data collected and electronic record filed in Program Document Controls, source of data and comments on applicability to program.
2. Reports on bridge data obtained and documentation of existing bridge foundations.
3. Summary report of Kick-off meetings.
4. Written requests and justifications to obtain specific data that may not be readily available or where assistance of the STATE is required to obtain the data.

B. Field Reconnaissance.

The GECP shall conduct field reconnaissance and collect data including a video photographic records of notable existing features at periodic periods during a project or corridors various development stages.

Deliverables:

The GECP shall provide:

1. Log of all pictures and videos including location, date, and description.
2. Electronic documentation of all field data collected, stored and catalogued in the SP/RMS.
3. Field equipment and personnel as required to perform assigned field reconnaissance.

C. Master Development Plan

The GECP shall provide:

1. Schematic Review and Refinement Recommendations

- a. Assemble multi-disciplinary teams and hold workshops to review the schematics considering geometric configurations, traffic operations, long-term maintenance accessibility, safety issues, cost effectiveness, and constructability, in order to identify opportunities for potential refinements. The GECP shall provide the STATE with a written schematic review summary and recommendations for potential schematic refinements with supporting documentation.
- b. The GECP shall, as directed and approved by the STATE, provide preliminary engineering for proposed schematic refinements to be incorporated into the schematic. Preliminary engineering shall include options for staged or phased project implementation to support feasibility studies and development of ADP Technical Provisions.
- c. The GECP shall review proposed ROW border widths for compliance with STATE standards and criteria and identify any concerns related to utility relocation conflicts and adequacy of border width to accommodate proposed project improvements such as noise walls, sidewalks, and drainage appurtenances.
- d. Access Management shall be reviewed and assessed in accordance with current STATE guidelines and corridor specific approach for access management accommodations shall be developed as requested by the STATE. Access management shall include support of permit reviews received concerning driveway or roadway connectivity to a STATE facility.

2. Strategic Development Plan

The GECP shall accomplish the following tasks:

- a. Review the schematic designs including identified refinements and develop recommendations for design and construction sections considering, as feasible, preliminary cost estimates, environmental commitments, drainage features and outfalls, utility relocations and service units, ROW, traffic operations, and potential construction sequencing. The GECP shall provide a Technical Memorandum on recommended sections with supporting documentation and methodology used to develop recommendations.
- b. The GECP shall identify potential "Early Implementation" projects or portions of projects that could be accelerated or performed earlier in the schedule depending on available funding options. The GECP shall provide a Project Phasing Technical Memorandum with recommendations on "Early Implementation" projects.

3. Preliminary Cost Estimates

- a. The GECP shall prepare Preliminary Total Cost Estimates for assigned projects or programs based upon schematics, feasibility studies, and utilizing current STATE cost data. Preliminary Cost Estimates shall be broken down by major cost elements. Appropriate contingencies shall be defined along with applicable back-up supporting recommended value of contingency for a

specified cost element as appropriate. Potential cost increase based upon anticipated construction year shall also be considered and noted.

- b. The GECP shall provide an independent team of disciplinary experts that is not involved in the daily performance of the scope of work to perform an independent verification of cost estimates.

4. Schematic Design Development

For standalone assigned projects or corridors, the GECP shall prepare schematic designs and drawings utilizing the latest manuals, methods and guidelines published by the STATE and SPO guidelines and criteria for schematic preparation. Schematic design development shall include geometric considerations, safety, operations, typical sections, ramping, connectivity to area roadway networks, traffic sequencing, drainage, bridge types, retaining walls, aesthetic and landscaping considerations, environmental commitments, ROW and utility issues, and pedestrian and bicycle considerations. The GEC shall also develop a design summary report to accompany all schematic design development.

The GECP shall identify any design exceptions that may be required. The GEC shall make suggestions for revisions to eliminate the need for those exceptions. If needed the GEC shall prepare the design exception request documents necessary to secure any exceptions that cannot be eliminated.

The GECP PM shall attend public meetings and hearings and review the summary and analysis of public hearing comments when they are prepared. The GECP shall also review any schematic revisions implemented as a result of public hearing comments.

Deliverables:

The GECP shall provide:

1. Record of Workshops held concerning schematic development and potential schematic refinements.
2. Master Development Plan, Technical Memorandum, or Project Phasing Technical Memorandums concerning assessment of schematics and proposed program development plans.
3. Periodic updates to Master Development Plan and Project Phasing Plan documents through various project development stages.
4. Recommendations for schematic refinement with supporting engineering documentation and recommendations for potential implementation. The deliverable shall be one report detailing these comments and proposed revisions in one three-ring binder plus electronic copy.
5. Revised schematic documents, as applicable and as approved by the STATE.
6. Schematic drawings, typical sections, and working drawings accompanied by a design summary report. Final schematics shall be signed and sealed by a licensed engineer in the STATE of Texas.
7. Preliminary Costs Estimates and methodology for development. The deliverable shall be one report detailing these cost estimates and documenting assumptions and parameters, contained in one three-ring binder plus electronic copy.
8. Periodic updates of Preliminary Cost Estimates during Planning and Environmental Phase.
9. Design exception reports in accordance with current STATE standards and procedures.

D. Program Design Criteria

When requested by the STATE, the GECP shall evaluate and develop program-wide design criteria, and prepare program specific design criteria to guide ADP Firms or project design teams for providing uniformity throughout the corridor as applicable. The criteria, standards, and any corridor specific guidelines shall be published in a Program design Criteria report and included within applicable contract documents for a project or corridor procurement.

Deliverables

The GEC shall provide:

1. Program Design Criteria report(s) in one three-ring binder plus electronic copy.
2. Recommendations and supporting documentation of proposed modifications to program design criteria for assigned projects or corridors.

E. Traffic Modeling and Planning Studies

1. The GECP shall perform a Freeway Corridor Capacity and Level of Service Analysis within assigned project or program limits or perform a review and evaluation of such traffic modeling prepared by third parties and submitted to the STATE.
2. Analysis shall be based on methodologies and guidelines found in the Highway Capacity Manual; Texas Department of Transportation's (TxDOT) Roadway Design Manual; TTI Research Report 1393-4F – "Procedures to Determine Frontage Road Level of Service and Ramp Spacing."
3. Existing Traffic analysis and models shall be refined over an assigned project or program duration as directed by the STATE. Traffic engineering software shall involve Traffic Software Integrated System (TSIS) with CORSIM modeling including both NETSIM (for surface street simulation) and FRESIM (for freeway simulation) or 2000 Highway Capacity Software (HCS) for limited freeway corridor analysis, or the latest version of PASSER, Synchro, or VISSIMS, or other traffic modeling software identified as applicable by the STATE.
4. The GECP shall perform the following tasks for evaluating the existing conditions on a need basis and as approved by the STATE:
 - a. Conduct site inspections and obtain photographs.
 - b. Record pedestrian and vehicular traffic characteristics, grades and sight distances as observed while in the field.
 - c. Manually record turning movement counts at intervals and times as approved by the STATE.
 - d. Mechanically record 24-hour classified counts at 15-minute intervals on the freeway main lanes, frontage roads, ramps, or weave areas using tubes.
 - e. Record 85th speeds using tubes or other approved mechanical data collection devices.
 - f. Obtain accident records from the local Law Enforcement during the most recent 36-month period, analyze and prepare collision diagrams.
 - g. Obtain data on bus routes, car pools, vanpools, HOV operation, ramp metering, emergency responders, signal timing etc.

- h. Provide traffic analysis and modeling for hurricane or emergency evacuation route plans as directed by the STATE.
 - i. Perform Trip Generation/Distribution/Modal Split/Traffic Assignment for any new or on-going development as well as revitalization in the vicinity of the study locations that has significant impact on intersection traffic operations.
 - j. Evaluate current year peak hour traffic demand and determine capacity, level of service, on main lanes and frontage roads, main lane and frontage road weave areas, main lane ramps, signalized intersections along the frontage roads and other critical traffic operation areas within assigned study limits.
5. The GECP shall obtain additional traffic counts, as directed by the STATE, to supplement data and update models for areas of concern related to traffic operations.
6. The GECP shall perform additional traffic studies as directed by the STATE to respond to changing development and assess impacts of changes to adjacent and intersecting roadways under local agency jurisdiction.

Deliverables:

The GEC shall provide:

1. Report of Corridor Capacity and Level of Service Analysis and recommendations of alternative program implementation.
2. Report updates based on periodic traffic counts and adjustments for development in the corridor and as may be related to staged program implementation.
3. Traffic Count Data reports.
4. Traffic and Intersection Studies as needed.
5. Traffic Intersection and adjacent street corridor network models as needed to assess temporary and ultimate proposed signal timing and management of traffic.

F. Intelligent Transportation System and Toll System Planning, Design and Implementation

The GECP shall:

1. Obtain from the STATE an Inventory of Existing and Planned ITS Systems within assigned corridors including equipment and infrastructure elements.
2. Obtain from the STATE an inventory of existing and planned Toll systems including equipment and infrastructure elements, and supporting electronic systems and protocols for toll collection and management.
3. Determine Systems, Technologies, and Concepts of Operation – Technologies currently in use and options to implement an interim and ultimate ITS or toll system plans including communications systems, traffic operations systems, toll collection systems, video systems, and incident management.

4. Identify ITS System Performance Criteria and Technology Options – Expected performance of the various ITS systems to be deployed in the corridor shall be recommended to and agreed upon with the STATE's Houston SPO ITS staff.
5. Identify Toll System Performance Criteria and Technology Options – Analyze expected performance and establish or monitor performance metrics for existing and planned toll collection systems and back-office support systems and provide recommendations to and support for tracking, monitoring, and reporting on toll system costing and operations assessment in coordination with the Toll Operations Division (TOD).
6. Review and identify toll optimization strategies – provide analysis and recommendations concerning toll collection strategies and best management practices, and develop action plans to implement strategies as approved and directed by TOD.
7. Develop interim conceptual ITS plans and final PS&E for ITS systems as assigned to support connectivity, redundancy, maintenance of existing systems, and development of integrated regional system connectivity.
8. Develop toll collection system and operation management plans and reporting and tracking systems as requested by the STATE and in accordance with criteria and requirements of TOD.

Deliverables:

The GECP shall provide to the STATE:

1. Interim conceptual ITS System Plans or Toll System Plans in one three-ring ring binder and an electronic copy.
2. Standard plans and special specifications for ITS System or Toll System Plans and implementation.
3. Technical Memorandums or reports on toll collection and back-office systems including assessment and recommendations concerning existing operations, technology or system upgrades, revised management practices, optimization strategies, and alternative costing and collection systems.
4. Tracking and monitoring template forms for planned system changes and improvements to toll collection and back office systems.

G. Rail Coordination Services

1. The GECP shall coordinate meetings between Railroad companies (RR), the STATE, and other local agencies related to the interaction of Rail and Highway Operations within the Corridor and potential future uses.
2. The GECP shall coordinate with RR companies, the STATE's Divisions, and Developers as applicable, to accomplish the following:
 - a. Field Diagnostic Investigations
 - b. Assembling and submittal of Railroad Crossing Exhibits for all Rail and Highway at-grade and grade separated crossings.

- c. Support development of Railroad agreements for all locations within an assigned project or corridor that require such an agreement and track, monitor, and report on status of said agreements.

Deliverables:

The GECP shall provide to the STATE:

1. Record of all meetings and contacts with the Railroad companies.
2. White Papers or Special Study memorandums concerning coordination with the Railroads and potential joint uses of rail corridors.
3. Record of Field Diagnostic meetings.
4. Draft and Final assemblies of Railroad Agreements for processing by the STATE.

H. Geotechnical Field Investigations and Reports

1. The GECP shall review the ADP Firm's or other GECs location of soil borings, for bridge design, embankment settlement analysis, retaining walls, slope stability, and along storm sewer alignment. Once the general location and depth of borings is reviewed by the STATE and GECP, and recommendations are made, the GECP shall monitor performance of soil borings (field work), soil testing and preparation of the soil borings in accordance with STATE procedures and using the STATE's WINCORE program.
2. The GECP shall review the ADP Firm's or other GECs geotechnical report(s) signed, sealed by a licensed Professional Engineer in the STATE of Texas and dated to include soil boring locations, general characteristics of the ground conditions, results of settlement analysis and slope stability, laboratory test results, foundation and embankment recommendations, and design capacity curves including skin friction and point bearing for piling and drilled shaft foundations. The report(s) shall be divided into volumes by proposed project and CSJ.
3. The GECP shall review the ADP Firm's records of periodic monitoring wells to measure seasonal fluctuations of the groundwater table such as to predict potential areas requiring dewatering during construction.
4. The GECP shall review the ADP Firm's or other GECs soil boring log data sheets, signed, sealed, and dated, for insertion into procurement or PS&E documents, when requested by the STATE.

Deliverables:

The GEC shall provide:

1. Log of all geotechnical study submittals and written record of review comments including comment matrix with record of response to comments.
2. Record of geotechnical submittals to include:
 - a. Field records of borings
 - b. WINCORE data

- c. Geotechnical Report(s), signed, sealed, and dated by a Licensed Professional Engineer in Texas, including the results of the field and laboratory testing and results of all geotechnical investigations/recommendations based on the above scope of work.
 - d. Boring log sheets, signed, sealed, and dated for inclusion in procurement or PS&E documents.
3. Development of Technical Provisions, General Notes, special provisions, and special specifications as applicable based on results of geotechnical reports and investigations.

I. Special Studies, White papers, and Research Documentation

1. As directed by the STATE, the GECP shall undertake special studies and development of white papers concerning Program Development issues to investigate and develop recommendations for specialty items such as the following:
 - a. Asset Management
 - b. Funding, Financing, and Cash Flow fluctuations
 - c. Alternative funding and financing
 - d. Alternative Project Delivery methods
 - e. Toll System operations and management
 - f. Third party proposals such as from Developer's, local toll agencies, local transit agencies, and local or regional freight agencies concerning interaction and implementation of modal alternatives.
 - g. Third Party proposal from private parties such as utility companies.
2. The GECP shall produce white papers or reports resulting from all assigned special studies to include documentation of the following:
 - a. Research and Background
 - b. Recommendations for action
 - c. Implementation Options
 - d. Impacts or potential results of implementation of recommendations.
3. The GECP shall develop a plan to implement the results of any special studies as directed by the STATE.

Deliverables:

The GEC shall provide:

1. Studies, reports, or white papers including documentation of research.
2. Implementation Plans.

ENVIRONMENTAL (FC 120)

A. Environmental Studies and Document Preparation, Review and Management

1. Environmental document preparation: The GECP shall provide oversight and production for the preparation of environmental documents, including environmental impact statements, environmental assessments, categorical exclusions, supplemental environmental documents, environmental reevaluations of existing documents, and other STATE and federal environmental documents as assigned by the STATE. Environmental documents shall be in conformance with National Environmental Policy Act of 1969 (NEPA) and current legislative requirements. The GECP shall provide oversight, coordination and participation with the STATE in project meetings with Federal, STATE, and Local Regulatory and Resource Agencies as necessary in support of environmental document preparation and environmental clearance activities.

Environmental document preparation shall be in conformance with the current STATE and FHWA requirements and shall include all appropriate chapters such as discussions of purpose and need, existing and proposed design and alternatives description, alternatives analysis, air and noise computer modeling, historical and archeological assessment, wildlife and endangered species, right-of-way, displacements, socioeconomic and environmental justice impacts, water quality, wetlands, floodplains, permits, aesthetics, and construction impacts as well as secondary and cumulative environmental impacts.

2. Environmental Management System: The GECP shall oversee and provide assistance in the implementation of an environmental management system to track environmental issues and mitigation commitments throughout the term of a proposed ADP. The GECP shall review the project for compliance with STATE and federal environmental laws pertaining to transportation projects.
3. Environmental Document Review and Recommendations: The GECP shall provide experienced environmental professionals for assigned projects or corridors, as requested by the STATE, to review environmental documents prepared by others including developers, consultants, or STATE personnel, and shall provide written comments and recommendations on such documents.
4. Environmental Permits. The GECP shall prepare exhibits and supporting documentation including permit applications as directed by the STATE for any permits that may be required such as with the USACE, Texas Commission on Environmental Quality (TCEQ), federal aviation administration (FAA) for flight path clearance, local floodplain administrators, and other STATE or local jurisdictional permit agencies including local cities. Permit coordination shall include coordination or completion of Environmental Permits Issues and Commitments Sheets (EPIC Sheets) for STATE signature and processing.
5. Provide Public Involvement for Environmental Documents. The GECP shall support public meetings and hearings for environmental document preparation. Public involvement procedures shall be in accordance with 43 Texas Administrative Code (TAC) 2.40-2.50, Code of Federal Regulations, Title 23, Part 771 and the STATE's Environmental Manual. Public involvement shall be an ongoing process throughout project development. The GECP shall assist the STATE with public inquiries regarding the environmental process and environmental document and provide meetings with affected property owners (MAPOs) where assigned. Public involvement support and meetings shall include exhibit preparation for display at public meetings or hearings.

Deliverables:

The GECP shall provide to the STATE:

1. Environmental Document reports, hard copy and electronic format, for submittal to the STATE and jurisdictional agencies. Submittals shall include draft and final versions and any applicable addenda or supplements
2. Environmental Management System report and tracking forms.
3. Completed environmental permits and supporting exhibits.
4. Public meeting or hearing mounted exhibits and handouts for distribution and displays.

B. Public Involvement and Communications

1. The GECP shall collaborate with the Communications Division and SPD to develop a Public Information and Communications Plan (PICP) for assigned projects or corridors which shall be integrated as a part of applicable PIP and PMP documents. The PICP shall contain procedures to demonstrate how the GEC shall:
 - a. Gain and maintain public support, building on existing community partnerships and communication networks.
 - b. Provide the public with opportunities for input.
 - c. Accommodate any bilingual requirements identified for program related materials.
 - d. External e-mails responded to in less than 24 hours.
 - e. Web inquiries responded to immediately noting that message was received and then provide an official response in 5 working days.
 - f. Demonstrate to the public that the Program, projects, or corridors, shall be developed pursuant to a well-executed plan.
 - g. Notify the public in advance of key project development stages such as environmental planning, design, ROW acquisition, construction, operations, maintenance activities and communicate the potential impacts of these activities.
 - h. Develop, disseminate and display timely, high quality, innovative, user-friendly, accurate and appropriate community information including exhibits showing slope grading, drainage, bridge structures, retaining walls, sound walls and ROW acquisition.
 - i. Develop and manage a public relations campaign and communication strategy to convey key messages, branding and pertinent information about a specific project or corridor.
 - j. Develop a forum to coordinate on-going dialogue among the public, community groups, the STATE, and the GECP.
 - k. Prepare and distribute Program-related materials to inform the public such as: meetings, interviews, media kits, news releases, telephone correspondence, newsletters brochures, e-mail, hotlines, dynamic message boards, web alerts, public opinion polls and surveys, videos, display booths, presentations, public access information kiosks, social media including twitter and Facebook, and special events.
 - l. Organize and manage meetings with key elected officials, the general public, representatives of civic organizations, businesses, and special interest groups along a corridor (individually or in groups) for the purpose of building rapport with affected stakeholders.
 - m. Create and develop advertising messages, including graphics, logos and slogans.
 - n. Place Program-related messages in the appropriate media.

- o. Develop and distribute public service announcements, paid advertising, news reports.
2. The GECP shall provide a Public Information Coordinator and support personnel to lead the Public Information Program and responsibility for public involvement activities. The Public Information Coordinator shall:
- a. Provide the primary point of contact between the GECP Team, the STATE, and the public and act as clearinghouse for the receipt and response to written or verbal comments or inquiries.
 - b. Lead the production, implementation, audit, quality control and quality assurance, and updates of the PICP.
 - c. Coordinate and supervise day-to-day activities of GECP Team's personnel in performing the activities described in the PICP.
 - d. Facilitate communication among the STATE, the GECP, and local agencies.
 - e. Support the STATE in communication with all STATE and Federal Agencies.
 - f. Interact with affected Public and represent the interests of the STATE at associated public meetings and other formal and informal meetings.
 - g. Liaise with the person or agency assigned to coordinate the initial response to any Incident or Emergency that would impact an assigned project or corridor, and any Government Entity that may have jurisdiction in the Emergency as noted in the PICP.
3. At the STATE's request, the GECP shall provide the following services:
- a. Provide, host, and maintain, interactive Public Involvement Web-sites and public e-mail addresses for logging comments and inquiries. The GEC shall keep the web-site up to date on assigned projects or corridors and shall modify the web-site for compliance with the STATE's communications procedures and guidelines.
 - b. Monitor implementation of the PICP and report to the STATE SPO's Public Information Officer (PIO) status and effectiveness of the PICP and recommend modifications.
 - c. Update and publish applicable updates to the PICP.
 - d. Perform public opinion surveys to ascertain the public's opinion and understanding of a project or proposed corridor implementation.
 - e. Provide support and oversight for the preparation of scripts, graphics, and all other materials as needed for presentations, as requested by the STATE.
 - f. Make presentations on behalf of the STATE, as requested including community groups and seminars/industry events as requested by the STATE.
 - g. Coordinate and support small group gatherings with community associations, business groups, or other entities at table-top and town hall type meetings to disseminate program related information and updates.
 - h. Provide support and oversight for the preparation of multi-media public communications that include, but are not limited to:
 - i. materials for project website
 - ii. updates and articles for project newsletter
 - iii. press releases and media kits

- iv. legal notices and advertisements
- v. SPO updates
- vi. outreach materials for minority and under-represented populations
- i. Provide materials, supplies, and development of multi-media tools including set-up and disassembly where applicable of multi-media tools, as approved by the STATE, such as kiosks, video ipods, plasma screen displays, etc.
- j. Develop 3-D animation for proposed construction or to demonstrate construction sequencing and development to support public outreach efforts, agency meetings, and coordination with third party interests such as utilities, jurisdictional agencies, railroad companies, transit agencies, and local cities and counties. Animations of these 3D models shall be rendered and can be used to provide the public with visual depictions of future roadway enhancements. The animations shall consist of virtual cameras that shall be developed to explore the 3D model as flyovers and driver perspectives at locations of interest and/or concern along the proposed corridor. The animations shall also include a bilingual narration audio overlay developed from scripts that shall be provided by the GECP's Public Involvement personnel in coordination with the STATE's PIO. Additionally, the animations may include construction phasing sequences to help educate the public with construction schedules and considerations. The 3D model shall be a reusable asset for any future considerations such as revisions due to additional refinements to the design, new animation paths, and potential real-time exploration. Development and production of additional materials for use in future public presentations may also include high resolution stills for poster displays, interactive kiosk and DVD menu development, and web streaming content.
- k. Establish and maintain Hotlines, and social media accounts to interface with the public and publicize contact information. The GECP shall log all communications and associated responses.
- l. Maintain and update a database of stakeholders for assigned projects or corridors.

Deliverables:

The GEC shall provide:

1. Draft and final PICP in a three ring binder and electronic copy
2. Electronic versions of 3-D animation
3. Record of all exhibits, notices, advertisements, and other published materials.
4. Record of stakeholder database.
5. Record of all stakeholder meetings, presentations, or conversations uploaded into the electronic document management system.
6. Published newsletters

RIGHT-OF-WAY (Function Code 130)

The GECP shall coordinate and provide staff and management personnel to support utility coordination, as directed by the STATE's PM, in coordination with the SPD ROW Office.

A. Utility Coordination, Investigation, and Engineering Services

During Planning and Environmental Development or other project development stages, the GECP as requested by the STATE shall provide, or perform management oversight to the GECD or GECC in providing, the following utility coordination, investigation, and engineering services:

1. **Utility Engineering Investigation (Subsurface Utility Engineering)** including utility investigations subsurface and above ground prepared in accordance with AASHTO standards and Utility Quality Levels as follows:
 - a. Quality Level D – Existing Records: Utilities are plotted from review of available existing records.
 - b. Quality Level C – Surface Visible Feature Survey: Quality Level “D” information from existing records is correlated with surveyed surface-visible features. Includes Quality Level D information. If there are variances in the designated work area of Level D then a new schematic or plan layout, if needed, is required showing the limits of the proposed project and limits of the work area required; including highway stations, limits within existing or proposed right of way, additional areas outside the proposed right of way, and distances or areas to be included down existing intersecting roadways.
 - c. Quality Level B – Designate: Two-dimensional horizontal mapping. This information is obtained through the application and interpretation of appropriate non-destructive surface geophysical methods. Utility indications are referenced to established survey control. Incorporates quality levels C and D information to produce Quality Level B. If there are variances in the designated work area of Level D then a new schematic or plan layout, if needed, is required showing the limits of the proposed project and limits of the work area required; including highway stations, limits within existing or proposed right of way, additional areas outside the proposed right of way, and distances or areas to be included down existing intersecting roadways.
 - d. Quality Level A – Locate (Test Hole): Three-dimensional mapping and other characterization data. This information is obtained through exposing utility facilities through test holes and measuring and recording (to appropriate survey control) utility/environment data. Incorporates quality levels B, C and D information to produce Quality Level A.
2. **Utility Adjustment Coordination** including utility coordination meetings with individual utility companies, communication and coordination with utilities, and preparation of utility agreement assemblies including utility agreements, joint use agreements, and advanced funding agreements.
 - a. The GECs shall perform utility coordination and liaison activities with involved utility owners, their consultants, and the STATE to achieve timely project notifications, formal coordination meetings, conflict analysis and resolution. The GECs shall act as the “Responsible Party” as indicated in the STATE’s– Utility Cooperative Management Process (See the STATE’s ROW Utility Manual, chapter 2).
 - b. The GECs shall determine which utilities shall conflict with highway construction or the “Utility Accommodation Rules” (UAR), and make the utility company aware of these conflicts. The GECs shall assist the utility companies in the preparation of required agreements associated with the funding of adjustments and the occupation of STATE right of way;
 - i. Utility Agreement Assemblies: A packaged agreement consisting of a Utility Joint Use Acknowledgement, Standard Utility Agreements, Plans on 11x17 sheets, Statement of contract work form, Affidavit form and copy of recorded easement, schedule of work and various attachments as detailed in the UAR and the STATE’s Utility Manual.

- a) **Utility Agreements:** If a utility is located within an easement, the utility company may have a compensable interest. The utility company must furnish a copy of their easement to the Engineer. The GEC shall determine whether or not a compensable interest exists and the owner's degree of eligibility. The GEC shall assist the utility company with adjustment plans and cost estimate for these adjustments. The GEC shall review plans for compliance with UAR and to verify that the proposal shall not conflict with highway construction. The GEC shall submit a copy of the easement, plans, and estimate to the STATE by letter recommending approval (6 copies of each). The utility should be reimbursed all cost incurred within their easement limits for replacement in kind.
 - b) **Utility Acknowledgement:** For this project, all Non-Reimbursable Utility Adjustments shall be submitted with the form ROW-U-JUAB "Utility Joint Use Acknowledgement, Non-Reimbursable Utility Adjustment. This form replaces the Notice of Proposed Installation" (Form 1082). The term permit refers to form 1082 or form ROW-U-JUAB. The GEC shall furnish the appropriate form to the utility company and assist them with adjustment plan preparation. The utility company should submit the Utility Joint Use Acknowledgement and adjustment plans to the GEC for review. The GEC shall review plans for compliance with UAR and to verify that the proposal shall not conflict with highway construction. The GEC shall submit the Utility Joint Use Acknowledgement to the STATE by letter recommending approval (6 copies).
 - c) **Escrow Agreements:** If it is determined that the utility shall be adjusted as part of the highway contract; the STATE's project manager shall be notified immediately. The GEC shall determine what funding amount is required based upon the applicable betterment or eligibility ratio. The STATE shall be notified immediately of the need for an AFA by the Engineer. The GEC shall coordinate the development of the required Advanced Funding Agreement (AFA) with the utility owner and the STATE in accordance with established procedures of the STATE's SPO Contracts section. Procure or verify all Advanced Funding Agreement payments have been submitted to the STATE.
- ii. The GECP shall submit the required number of executed copies of the Utility Agreement assemblies, which include the appropriate Forms as detailed in the UAR and supplied by the STATE, a copy of the recorded easement Deed, plans, and estimate to the STATE by letter recommending approval (6 copies of each). The utility should be reimbursed eligible costs incurred within their easement limits for replacement in kind. The transmittal should also provide a description of the work being done as well as the estimated cost and schedule of work. The GECs shall not perform engineering of relocation plans relative to a particular Utility Agreement under this agreement as this is a cost of Right of Way that is subsidiary to the specific Utility Agreement.
 - iii. The GECP or designated GEC shall be solely responsible for determining which utilities shall be installed by "ROW-U-JUAB", or by "Agreement". The GEC shall Process all ROW-U-JUAB requests, Utility Agreements and determine necessity of any Escrow Agreements and forward to the STATE for final approval;
3. **Utility Engineering** including the identification of utility conflicts, coordination, compliance with the UAR, and resolution of utility conflicts. The GECP shall coordinate all activities with the STATE, or their designee, to facilitate the orderly progress and timely completion of the STATE's design phase.
- a. Coordination of engineering activities include:

- i. Utility Layout: The GECP or designated GEC shall maintain a utility layout in the latest version of Microstation used by the STATE. This layout shall include all existing utilities which are to remain in place or be abandoned, and all adjusted utilities. This layout shall be utilized to monitor the necessity and evaluate alternatives. The GEC's licensed Professional Engineer (P.E.) shall utilize the layout of existing utilities as prepared, if available, and make a determination of the following;
 - a) Facilities in conflict with the proposed project that are to be relocated.
 - b) Facilities to be abandoned in place.
 - c) Facilities to remain in service and in place as a result roadway design adjustments and meeting the current UAR.
 - d) The Engineer's P.E. shall be responsible for determining if there are additional facilities, not shown in the Subsurface Utility Engineering (SUE) documents, which require relocation. The GEC shall coordinate this information with the STATE immediately upon discovery.
- b. Public & Individual Meetings with Utility Companies, as required, to facilitate utility conflict identification and resolution.
 - i. Establish Contact with all existing utilities within and adjacent to the project limits and set up utility coordination meetings to discuss concepts and options for construction.
 - ii. Schedule all utility coordination meetings and assess compatibility with the schedule of the STATE.
 - iii. Set agenda for all coordination meetings as directed by the STATE.
 - iv. Establish and promote the desired agenda and methodologies for utility construction within the project limits. This shall consist primarily of promoting the construction of utilities as a part of the Highway Contract.
 - v. Orientation: Prepare and present, in collaboration with the STATE, instruction and orientation sessions as required. The instruction shall introduce the SUE Plans, the proposed utility layout, processes, demonstrate the technology and facilitate the preparation of work orders, billings, and contract related documentation as it pertains to utility adjustment work.
 - vi. Initial Project Meeting: Attend an initial meeting and an on-site inspection (when appropriate) to provide familiarity with existing conditions, project requirements and prepare a written report of the meeting.
 - vii. Work Plan: Develop a work plan including a list of the tasks to be performed, a schedule and an estimate. The work plan must satisfy the requirements of the project and must be approved by the STATE prior to commencing work.
- c. Progress Meetings: Meet with the STATE periodically to coordinate the work effort and resolve problems and prepare a written report of such meetings. Review of Utility's Proposed Adjustments
 - i. Evaluate Alternatives: The GEC's P.E. shall evaluate alternatives in the adjustment of utilities balancing the needs of both the STATE and the Utility.
 - ii. Review Estimates and Schedules: The GEC's P.E. shall review the utility adjustment estimates for reasonableness of cost and the timely scheduling of the adjustment.
 - iii. Review Plans for compliance with Utility Accommodation Rules and proposed location

data. The responsibility for quality and accuracy of Utility adjustment plans shall remain with the Utility Company.

- iv. **Inspect Traffic control setup.** The GEC's P.E. shall review for compliance with the regulations of the most recent edition of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD). The GEC must obtain approval from the STATE concerning the proposed method of handling traffic prior to allowing commencement of work.
 - d. The GECs shall not provide services for the sole benefit of third parties.
 - e. Prepare a Signed and Sealed Proposed Utility Layout in the latest version of MicroStation used by the STATE that can be overlaid on the base file with drainage and determine the following;
 - 1) All facilities conflicts have been resolved.
 - 2) All stakeholders have concurred with the various alignments.
 - 3) Establish the sequence of construction for all utility relocation work. whether it is included as a part of the Highway Construction or not
 - 4) Determine which utilities shall be built as part of the contract.
 - 5) Determine which facilities shall be relocated prior to construction.
 - f. **Utility Certification and Special Provisions:** The GEC's P.E. shall submit upon request from the STATE, a Utility Certification or a Special Provisions report. Utility Certification shall certify that all utilities are clear for highway construction. However, if the utility adjustments are not complete prior to highway project letting, a Special Provision shall be required outlining all outstanding utility conflicts and their effects on highway construction. Furthermore, A Utility Clearance schedule, signed by the utility owner shall be provided with the certification as noted above. The Formats for the Certification and the Clearance schedule shall be provided by the STATE.
 - g. The GECP shall submit the required number of executed copies of the Utility Agreement assemblies, which include the appropriate Forms as detailed in the UAR and supplied by the STATE, a copy of the recorded easement Deed, plans, and estimate to the STATE by letter recommending approval (6 copies of each). The Transmittal letter should include the following statement "The proposed utility adjustment shall not conflict with proposed highway construction and shall comply with UAR. The utility should be reimbursed eligible costs incurred within their easement limits for replacement in kind." The transmittal should also provide a description of the work being done as well as the estimated cost and schedule of work. The GECP shall not perform engineering of relocation plans relative to a particular Utility Agreement under this contract as this is a cost of Right of Way that is subsidiary to the specific Utility Agreement.
4. **Utility Construction Management and Verification**, including the coordination of utility construction activities, utility location installation verification, compliance with Utility Accommodation Rules, monitoring, reporting, and as-built surveying as required for the STATE's SPO Office.
- a. The GECP shall schedule a Pre-Construction meeting for each utility adjustment for which they are required to perform field verification and inspection duties. The GECP is responsible for ensuring the necessary STATE representatives are present.
 - b. Verification:

- i. The GEC's P.E. shall field verify all utility adjustments to verify that the new facilities are located according to plans, specifications, and the Proposed Utility Layout. This shall include all surveying and right of way staking as needed to clear the proposed construction.
 - ii. The GEC's P.E. shall insure that the utility is in compliance with the TMUTCD, "Storm Water Pollution Prevention Plan" (SW3P), backfill specifications, and restoration of right of way upon completion of work.
- c. Status Reports: The GECP shall provide the STATE with a status report for all utility adjustments on a monthly basis. The STATE shall provide the status report format to the Engineer.
- d. Review Payment Request: The GEC's P.E. shall review all payment requests for conformance with the utility estimate and verify the work has been performed.
- e. Notification. The GECP shall notify the STATE if demobilizing occurs before the approved scope of services is completed. This notification must occur before the demobilization process begins. This requirement may only entail documentation into diaries.
- f. As-Built Drawings and GPS File: The GECP or designated GEC shall, per work authorization, provide a GPS file showing all bends, installation types, casings, and above ground appurtenances and shall be supplied upon completion of the utility work in a format specified by the STATE. The drawings and GPS files shall also include all utility adjustments and installations that are not to be constructed as a part of the Highway Project. A set of 11" x 17" as built drawings, signed and sealed by the assigned GEC along with a CD containing electronic files shall be submitted prior to final payment and acceptance of all Utility Coordination activities.-
- g. The Utility Company retains all responsibility for all inspections related to compliance with Utility Codes, Industry standards, and design of the Utility Facility.
- h. The GECP shall not provide services for the sole benefit of third parties.

Deliverables:

The GECP shall provide:

1. Field and computer aided design and development (CADD) base mapping for all SUE level investigations with facilities noted including applicable level of SUE performed, date services performed, type and size of facility, and ownership data of the facility.
2. Assembly of utility agreements received from Developer to utility owner with supporting documentation and records, and recommendations concerning compliance with regulations and applicable agreements, and for further processing by the STATE.
3. Field diaries documenting results of visual field inspections and discussions.
4. Written recommendations concerning payment requests and recommendations on completed work compliance with applicable utility agreements and STATE requirements for adjustments in STATE ROW.
5. Record of correspondence with utility companies and their representatives.

B. ROW Surveying

During Planning and Environmental Development or other project development stages, the GECP as requested by the STATE shall provide, or provide oversight of GECD and GECC firms performing, ROW surveying and mapping support for real property acquisition and advance acquisition purchases.

1. The ROW Surveyor shall provide the following:

The following is an outline of the work to be performed and the products to be provided by the surveyor for each assigned ROW CSJ.

- a. Prepare an abstract map of the current record title holders covering the ROW CSJ project area.
- b. Prepare a preliminary right-of-way layout covering each ROW CSJ.
- c. Prepare a completed right-of-way map, including a control data sheet and utility table for each ROW CSJ.
- d. Prepare property descriptions, parcel plots and area calculation sheets describing parcels of land to be acquired. These documents may be packaged in subcategories of the ROW CSJ as approved by the STATE.
 - i. Monument the proposed right-of-way lines at intersecting property lines with appropriate Monuments, and at all PCs, PTs, angle points, intersecting right-of-way lines of side streets, and 1,500 foot stations.
 - ii. Monument the existing right-of-way lines in areas of no proposed acquisition at all PCs, PTs, angle points, and 1,500 foot stations.
- e. Provide to the STATE a copy of all instruments of record acquired pursuant to this Contract.
- f. Provide the computer graphics files of the right-of-way map and field note descriptions on a medium and in a format acceptable to the STATE.
- g. Provide computer disks of scanned instruments of record (deeds).

2. Definitions

For purposes of this Contract, the following definitions shall apply:

- a. Abstract Map - a drawing to scale depicting proposed right-of-way lines, existing right-of-way lines, easement lines, and private property lines with relevant grantee names, recording data, and recording dates.
- b. Area Calculation Sheet - A computer generated print-out of the area and the perimeter bearings, distances, curve data, and coordinates of an individual parcel of land to be acquired.
- c. Access Denial Line - A line which indicates specific locations where access to the roadway is denied.
- d. Property Description - A written metes and bounds description delineating the area and boundary and describing the location of an individual parcel of land unique to all other parcels of land.
- e. Owner - The most current title holder of record as determined by a study of the Real Property Records.

- f. Parcel Plat - an 8 ½ inch by 11 inch drawing to scale depicting all the information shown on the right-of-way map regarding an individual parcel of land to be acquired.
- g. Parent Tract – A unit or contiguous units of land under one ownership, comprising a single marketable tract of land consistent with the principle of highest and best use. A parent tract may be described by a single instrument or several instruments. A single parent tract cannot be severed by a public right-of-way, easement, or separate ownership which destroys unit of use.
- h. Parent Tract Inset – A small line drawing, to an appropriate scale, of the parent tract perimeter placed upon the right of way map in the proximity of the respective parcel. Parent tract insets are used in cases where the parent tract cannot be shown to the same scale as the right-of-way map. Since parent tract insets are used to identify the limits and location of parent tracts, they should include public right-of-ways, utility easements and fee strips, and identifiable water courses which bound the parent tract.
- i. Point of Beginning (P.O.B.) - A corner of the parcel of land to be acquired, located on the proposed right-of-way line and being the beginning terminus of the first course of the property description.
- j. Point of Commencing (P.O.C.) - A monumented property corner which can be identified in the Real Property Records and is located outside the proposed right of-way corridor. For title purposes the point of commencing should be a monumented back corner of the parent tract. In the event a monumented back corner of the parent tract cannot be recovered, the nearest identifiable, monumented property corner located outside the proposed right-of-way corridor may be used.
- k. Preliminary Right-of-Way Layout - A drawing to scale depicting proposed right of-way lines, existing right-of-way lines, proposed pavement, control of access lines, the proposed centerline alignment, private property lines, easement lines, visible improvements, visible utilities, the station and offset from the centerline alignment to each PC, PT, and angle point in the proposed right-of-way lines and to each PC, PT, and angle point in the existing right-of-way lines in areas of no proposed acquisition.
- l. Right-of-Way Map - A series of 22 inch by 34 inch drawings to scale depicting the results of relevant elements of records research, field work, analyzation, computation, and map making required to determine title, delineate areas and boundaries, locate and describe utilities and improvements to the extent necessary to appraise the value and negotiate the acquisition of individual parcels of private land for a proposed right-of-way project.

3. Abstracting

Abstracting shall be sufficient to determine and depict the following:

- a. Any and all interests of public record held in land to be acquired
- b. The total record holdings of an owner contiguous to land to be acquired from that owner
- c. Any and all interests in land to be acquired held in common (shopping mall parking lots, subdivision reserves, etc.)
- d. Any and all improvements proposed by other agencies which may have a bearing on project development
- e. All called monuments, bearings, and distances per recorded information.

4. Right-Of-Way Map

- a. Proposed right-of-way lines shall be delineated with appropriate bearings, distances and curve data. Curve data shall include the radius, delta angle, arc length and long chord bearing and distance.
- b. Existing right-of-way lines shall be delineated with appropriate bearings, distances and curve data to the extent necessary to describe the individual parcels of land to be acquired. Curve data shall include the radius, delta angle, arc length and long chord bearing and distance.
- c. The proposed centerline alignment shall be delineated with appropriate bearings, distances and curve data. Curve data shall include the station of the curve PI, radius, delta angle, arc length, tangent length, long chord bearing and distance, and the X and Y coordinates of the curve PI. All centerline alignment PCs, PTs and even 500 foot stations shall be labeled as to station.
- d. Proposed paving lines combined with relevant existing paving lines shall be shown to the extent necessary to compile a complete picture of proposed traffic movements. Proposed paving on the final mylars submitted to the STATE shall be shaded with colored pencil or highlighted by some other means acceptable to the STATE.
- e. Control of access lines shall be shown sufficiently to indicate areas where access is to be denied and where access is to be permitted.
- f. Private property lines shall be delineated with appropriate bearings, distances and curve data to the extent necessary to describe the individual parcels of land to be acquired. Curve data shall include the radius, delta angle, arc length and long chord bearing and distance.
- g. League lines and survey lines shall be shown and identified by name and abstract number.
- h. County lines and city limit lines shall be located and identified by name.
- i. A north arrow shall be shown on each sheet and, if possible, in the upper right hand corner.
- j. Monumentation set or found shall be shown and described as to material and size.
- k. A station and offset shall be shown for each PC, PT and angle point in the proposed right-of-way lines. Stations and offsets shall be with respect to the proposed centerline alignment.
- l. Adjoining public right-of-ways shall be shown and identified by name, right-of-way width, and recording data.
- m. Railroads shall be shown and identified by name, right-of-way width, and recording data.
- n. Utility corridors shall be identified as to easement or fee.
- o. Easements and fee strips shall be shown and identified by width, owner and recording data.
- p. Building lines or set-back lines shall be shown and identified.
- q. Visible improvements located within the proposed right-of-way corridor or within 50 feet of a proposed right-of-way line shall be shown and completely identified.
- r. Structures shall be identified as commercial or residential, by number of stories, and as to type (brick, wood frame, etc.).
- s. Structures which are severed by a proposed right-of-way line shall be dimensioned to the extent necessary to completely delineate the severed parts.
- t. Parking areas, billboards and other on-premise signs which are severed by a proposed right-of-way line shall be dimensioned to the extent necessary to delineate that portion of the parking area, billboard or sign which is located within the proposed right-of-way corridor.

- u. In cases where structures are located outside the proposed right-of-way corridor and within 10 feet of a proposed right-of-way line, the shortest distance between the structure and the proposed right-of-way line shall be shown.
 - v. If the structure is an element of the planimetric furnished to the GEC Surveyor by the STATE, the GEC Surveyor may snap to the structure to determine this shortest distance. However, if this distance is less than 3 feet, it shall be field verified.
 - w. Visible utilities located within the proposed right-of-way corridor or within 50 feet of a proposed right-of-way line shall be shown and completely identified.
 - x. The location of underground fuel storage tanks situated within the proposed right-of-way corridor or within 50 feet of a proposed right-of-way line shall be determined and shown. The visible location of vent and filler caps in conjunction with available design and as-built drawings may be used to determine a most probable location in the event an actual location is indeterminable.
 - y. Points of commencing and points of beginning shall be shown and labeled. Points of beginning shall be shown with their respective X and Y surface coordinates. As an exception, a point of commencing shall not be required in the case of a total taking without remainder.
 - z. Each parcel of land to be acquired shall be identified by a parcel number which shall appear in the ownership tabulation and on the right-of-way map in the proximity of the respective parcel. If the GEC Surveyor is unfamiliar with the criteria used by the STATE to assign parcel numbers, he shall seek the assistance of the STATE at the time the abstract map is complete.
 - aa. An ownership tabulation shall be shown which shall include the parcel number, existing area of the parent tract, lot(s) and block(s) constituting the parent tract when applicable, owner's name, type of conveyance, film code, county clerk's file number, taking area, and remaining area of the parent tract located left and/or right of the centerline alignment. Types of conveyance, film codes and file numbers refer to conveyances into the STATE and shall be added to the right-of-way map by the STATE at a later date. Several blank lines shall be provided for in the tabulation block to facilitate future map additions.
 - bb. A parent tract inset shall be shown for each parent tract which cannot be shown to scale on the right-of-way map. The use of broken scale lines should be avoided. When parent tract insets are used, the point of commencing with the appropriate bearing and distance to the point of beginning may be shown on the parent tract inset.
 - cc. A note shall be included on the title sheet, and each map sheet stating the source of bearings, coordinates and datum used.
 - dd. Appropriate notes shall be included on the title sheet and each map sheet stating the following.
 - 1) Month(s) and year abstracting was performed upon which the map is based
 - 2) Month(s) and year field surveys were conducted upon which the map is based
 - 3) Month and year map was completed by the GEC Surveyor
 - 4) The right-of-way account number, if available
 - ee. The right-of-way account number, if available, shall be shown on each right-of-way map sheet.
5. Property Description
- a. The property description shall begin with a general description which shall include as a minimum:

- 1) STATE, County, and Survey within which the proposed parcel of land to be acquired is located
- 2) A reference to unrecorded and recorded subdivisions by name, lot, block, and recording data to the extent applicable
- 3) A reference by name to the grantor and grantee, date and recording data of the most current instrument(s) of conveyance describing the parent tract. It is the preference of the STATE to use execution dates in deed references as opposed to recording or filing dates. In any case, the property description shall make clear which date is being used
- b. The property description shall continue with a metes and bounds description which shall include as a minimum:
 - 1) A point of commencing
 - 2) A point of beginning with the appropriate X and Y surface coordinates
 - 3) A series of courses, identified by number and proceeding in a clockwise direction, describing the perimeter of the parcel of land to be acquired, and delineated with appropriate bearings, distances and curve data

Curve data shall include the radius, delta angle, arc length, and long chord bearing and distance.

Each course shall be identified either as a proposed right-of-way line, an existing right-of-way line, or a property line of the parent tract. Each property line of the parent tract shall be described with an appropriate adjoiner call.
 - 4) A description of all monumentation set or found to include, as a minimum, size and material.
 - 5) A reference to the source of bearings, coordinates, and datum used.
6. Horizontal Ground Control
 - a. Azimuth closure shall not exceed 4.5 seconds times the square root of the number of traverse segments.
 - b. Position closure after azimuth adjustment shall not exceed 1 in 20,000 or 0.2 meters times the square root of the distance in kilometers (1 foot times the square root of the distance in miles). The expression containing the square root is designed for longer lines where higher proportional accuracy is required. The formula that gives the smallest permissible closure should be used.
 - c. Twenty courses between azimuth checks shall be considered the maximum number acceptable.
 - d. In cases where a traverse approaches but does not entirely meet these standards of accuracy and the GEC Surveyor has assured himself that systematic errors and mistakes have been eliminated; the GEC Surveyor shall submit the traverse data to the STATE for further study. The STATE shall make a determination as to the acceptability of the traverse as an exception to the standard and notify the GEC Surveyor accordingly.
7. Safety
 - a. The GECP Surveyor shall control traffic in and near surveying operations adequately to comply with provisions of the latest edition of the *Texas Manual on Uniform Traffic Control Devices*.

- b. In the event field crew personnel must divert traffic or close traveled lanes, a Traffic Control Plan based upon principles outlined in the latest edition of the *Texas Manual on Uniform Traffic Control Devices* shall be prepared by the GEC Surveyor and approved by the STATE prior to commencement of field work. A copy of the approved plan shall be in the possession of field crew personnel on the job site at all times and shall be made available to TxDOT personnel for inspection upon request.

Deliverables

The GECP shall provide:

1. A Master Program Schedule to include a detailed schedule break-out for the ROW Mapping and Surveying with individual tasks and milestone deliverables noted by ROW CSJ. The GEC shall collaborate with the STATE on the detailed schedule with appropriate consideration of SPO and Division resources for final reviews and processing of each deliverable.
2. Abstract maps shall be completed and documented in accordance with the established schedule for each ROW CSJ and verified by the GECP using the STATE's standard checklist.
3. Preliminary right-of-way layouts shall be completed and verified against the STATE's checklist in accordance with the established schedule. The GECP or designated GEC Surveyor shall not proceed with the preparation of the right-of-way map, property descriptions, parcel plats or area calculation sheets until the internal approvals are documented. The GEC upon request, shall provide the STATE a copy of Preliminary Right-of-Way Maps for reference along with documentation of the associated QA/QC process.
4. Completed right-of-way maps for each ROW CSJ shall be completed and verified against the STATE's checklist in accordance with the established schedule. The GECP or designated GEC Surveyor shall not proceed with the preparation of the property descriptions, parcel plats, or area calculation sheets until appropriate internal approvals are documented. The completed right-of-way map shall be prepared for submitted in hard copy and graphic file form on microstation. The GEC upon request, shall provide the STATE a copy of the Completed Right-of-Way Maps for reference along with documentation of the associated Quality Assurance and Quality Control process.
5. An initial submittal of the completed right-of-way maps, property descriptions, parcel and area calculation sheets and instruments of record, shall be assembled for each ROW CSJ after appropriate approvals of the completed right-of-way map.
6. The final submittal of any completed right-of-way map, property descriptions, parcel plats, area calculation sheets, graphics files, computer disk and mark-ups of the initial submittal shall be assembled, verified using the STATE's checklist, and then forwarded for acceptance by the STATE and further processing in accordance with the established schedule.
7. If the STATE determines additional changes are still necessary to the final submittal, they shall be addressed and the final submittal returned to the STATE no later than 5 calendar days after notice of such change.
8. Monumentation of the existing right-of-way lines in areas of no proposed acquisitions and the proposed right-of-way lines shall be completed in accordance with the established schedule and after receipt by the GECP or designated GEC Surveyor of written authorization to proceed with said monumentation. The GEC Surveyor shall notify the STATE in writing when all monumentation for any ROW CSJ has been completed.

9. The GECP or designated GEC Surveyor shall promptly provide the STATE with a schedule to accommodate revisions to ROW Maps and associated documents when advised of any change that requires such revisions including changes in ownership, design changes warranting ROW adjustments, or adjustments in STATE standards for these documents.

FIELD SURVEYING AND PHOTOGRAMMETRY (Function Code 150)

A. Survey Control

1. Survey Control Sheets

The GECP's Surveyor shall prepare a Survey Control Index Sheet(s) and a Horizontal and Vertical Control Index Sheet(s) for each ROW CSJ, signed, sealed, and dated by the responsible Registered Professional Land Surveyor (RPLS), and a Licensed Professional Engineer in the STATE of Texas, for insertion into the ROW Maps and insertion into procurement or PS&E documents. The Survey Control Index Sheet(s) shall show an overall view of the applicable portion of the project and the relationship or primary monumentation and control whereas the Horizontal and Vertical Control Sheet(s) shall identify the primary survey control and the survey control monumentation used in the preparation of the project.

The following information shall be shown on the Survey Control Index Sheet(s):

- a. Overall view of the applicable section of the project and primary control monuments set for control of the project.
- b. Identification of the control points.
- c. Baseline and/or centerline
- d. Graphic (Bar) Scale
- e. North Arrow
- f. RPLS signature, seal and date

The following information shall be shown on the Horizontal and Vertical Control Sheet(s):

- a. Location for each control point, showing baseline and/or centerline alignment and North Arrow.
- b. Station and offset (with respect to the baseline or centerline alignments) of each identified control point.
- c. Basis of Datum for horizontal control (base control monument, benchmark, number, datum).
- d. Basis of Datum for the vertical control (base control monument, benchmark name, number, datum).
- e. Date of current adjustment of the datum.
- f. Monumentations set for Control (Description, SPO name/number and Location ties).

- g. Surface Adjustment Factor and unit of measurement.
 - h. Coordinates (SPC Zone and surface or grid).
 - i. Relevant metadata
 - j. Graphic (Bar) Scale
 - k. RPLS signature, seal, and date.
 - l. STATE title block containing District Name, County, Highway No., and CSJ.
2. The GECP's Surveyor shall periodically verify and re-establish as necessary the controls within the corridor.
 3. The GECP's Surveyor shall control traffic in and near surveying operations adequately to comply with the latest edition of the Texas Manual on Uniform Traffic Control Devices. In the event field personnel must divert traffic or close traveled lanes; a Traffic Control Plan shall be prepared by the GECP's Surveyor and approved by the STATE prior to commencement of field work. A copy of the approved plans shall be in the possession of field personnel on the job site at all times and shall be made available to STATE personnel upon request.
 4. The GECP's Surveyor shall coordinate with ADP Firm's and third party project surveyors and review submittals from such for conformance with STATE procedures and any applicable contract or procurement documents for specific projects or programs. The GECP's Surveyor shall resolve discrepancies or questions in the field related to coordination between multiple surveyors.
 5. The GECP Surveyor shall conduct select topographic ground surveys as assigned by the STATE to provide survey data in support of digital terrain model updates, drainage studies, preliminary engineering, and procurement reference data.

Deliverables:

The GECP shall provide to the STATE:

1. Survey Control Index Sheet(s) and Horizontal and Vertical Control Index Sheet(s), signed, sealed, and dated by the responsible Registered Land Surveyor (RPLS), and a Licensed Professional Engineer in the STATE of Texas.
2. Survey control book, exhibits, and field survey data for any filed surveys performed. The GECP shall provide copies of all survey field books and shall provide collected survey coordinate data added to base mapping in Microstation format.
3. Traffic Control Plans, signed, sealed, and dated by a Licensed Professional Engineer in the STATE of Texas.
4. Written assessment and recommendations concerning reviews of survey data submitted by ADP Firms or third parties and record of all correspondence concerning survey coordination.

5. Field books and updated electronic base mapping to include all field surveying services performed.

ROADWAY DESIGN CONTROLS (Function Code 160)

When requested by the STATE, the GECP shall perform the following services to support project advancement:

- A. Geometric Design.** The GECP shall develop horizontal and vertical geometry providing for improvement of an existing facility. All geometric design shall be in conformance with the STATE's Roadway Design Manual. The geometric layout shall include the basic information necessary for the proper review and evaluation including items listed in the STATE's Roadway Design Manual, Chapter 1, Section 3.
- B. Grading Design.** The GECP shall develop typical sections based on the horizontal and vertical alignments for proposed preliminary geometric layout. The GECP shall determine preliminary earthwork quantities based on the proposed preliminary geometric layout. In conjunction with the preliminary geometric layout, preliminary design cross sections shall be developed using Geopak. Top of pavement shall be shown together with the right-of-way limits, side slopes, retaining walls and pavement cross slopes.
- C. Prepare Roadway Typical Sections.** The GECP shall develop roadway typical sections for the proposed freeway general purpose lanes, managed lanes, ramps, direct connectors, frontage roads, and cross streets.
- D. Finalize Design Elements.** Based on the approved geometric layout, the GECP shall finalize horizontal, vertical, and cross-sectional design elements for all roadways and determine stopping, decision and intersection sight distances. All design shall be American with Disabilities Act Accessibility Guidelines/Texas Accessibility Standards (ADAAG/TAS) compliant.

E. Plan Development.

1. **Typical Sections.** The GECP shall develop final proposed typical sections for all roadways. Typical sections shall include representations of the various proposed conditions, such as pavement materials and thickness, cross-slopes, side slopes, number of lanes, lane widths, retaining wall locations, shoulder widths, clear zones, border width, sidewalk locations, and right-of-way width. This list is not all-inclusive, and other information shall be added as needed to clarify the intent and purpose of the typical sections.
2. **Temporary Construction Easements.** The GECP shall delineate the limits of construction outside of the right-of-way for proposed roadway improvements.
3. **Contour Plans.** The GECP shall develop contour plans for ramp gores, intersections and drainage grading as required to provide additional design detail.
4. **Control Data Sheets.** The GECP shall prepare a set of control data sheets listing horizontal and vertical control information. Coordinates, stations, and elevations of key alignment features and benchmarks shall be noted.
5. **Plan and Profile Sheets.** Using the approved preliminary geometric layout as the base drawing, the GECP shall prepare plan-profile sheets for each roadway at 1" = 100' horizontal scale (1" = 10' vertical scale) on 11" x 17" plan sheets, unless otherwise directed.

6. Roadway Layouts. The GECP shall develop roadway layouts in electronic format that illustrate all proposed improvements, including geometric baselines, edges of pavement, edge barriers, curbs, curb cuts, inlets, intersecting streets, pavement types, limits of construction and bridge, sign, signal and illumination foundations.
7. Design Cross-Sections. The GECP shall provide design cross-sections (one (1) paper copy) that are annotated at all break points and are produced at a 1" = 10', 1" = 20' or other scale as directed, on 11" x 17" plan sheets or roll plots as directed. Original ground line, design subgrade line and finished grade line shall be shown. Provide three cross-section reports, one at the original ground line, one at the design subgrade line, and one at the finished grade line.
8. Compute Earthwork Quantities. The GECP shall determine the quantities of cut and fill for each cross section and provide the earthwork quantities in a tabular format in the plans.
9. Removal Sheets. The GECP shall prepare removal sheets that identify significant improvements to be removed including, but not limited to: pavement, bridges, driveways, streets, drainage structures, large signs and abandoned utilities. It is assumed that the franchised utilities shall either remove their own equipment or shall abandon it in place.
10. Miscellaneous Sheets.

The GECP shall prepare the following sheets including, but not limited to:

- a. Title sheet
- b. Index of sheets
- c. Roadway Details
- d. Drainage details
- e. Project layout sheets at 1"=200' scale
- f. Survey control data sheets
- g. Select and insert roadway standards
- h. Summary Sheets

DRAINAGE (Function Code 161)

The GECP shall provide drainage planning, modeling and design management services to guide and oversee implementation of a corridor-wide approach to drainage analysis, modeling, mitigation, permitting, and coordination in conformance with the STATE *Hydraulic Manual* and, to establish program specific design criteria and standards for assigned projects or corridors. The GECP, when requested by the STATE, shall provide the following:

A. Modeling and Corridor Drainage Impact Reports.

1. Review all preliminary drainage studies previously prepared and provide a summary of key issues and assumptions to be utilized in preparation of a Corridor Drainage Impact Report.
2. Provide all modeling necessary to consolidate the previous studies and support development of a Corridor Drainage Impact Report.
3. Prepare a single Drainage Impact Reports for major project segments, watersheds, or corridors as requested by the STATE's PM. The reports shall include an approach to drainage design, mitigation, and coordination.
4. Provide coordination with applicable local, STATE, and federal agencies and shall advise the STATE as to the status of all coordination and any applicable approval efforts.
5. Consider drainage features, proposed outfalls, mitigation requirements, storm water management requirements, and temporary drainage requirements in development of the overall construction sequence master plan and in determination of proposed project sections for implementation.
6. Provide drainage support for value engineering studies and workshops to support a cost effective implementation for corridor-wide programs or major projects.
7. Provide preliminary cost estimating for drainage features and elements to support program master and financial planning tasks.
8. Update and provide addenda to Corridor Drainage Impact Reports during project development stages as requested by the STATE's PM.
9. Prepare Conditional Letter of Map Revision (CLOMR) requests to the Federal Emergency Management Agency (FEMA), if needed.

Deliverables:

The GECP shall provide:

1. Corridor Drainage Impact Report including a summary of key issues/assumptions.
2. Addenda and Updates to Corridor Drainage Impact Report as necessary.
3. Corridor-wide drainage program design criteria and standards.
4. Meeting Agendas and Minutes from all meetings with third party agencies.
5. Preliminary Cost Estimates.
6. Conditional Letter of Map Revision, if needed.

B. Pump Stations:

The GECP shall perform preliminary calculations and determine the pump size and the hydraulic and hydrology characteristics of any pump stations at depressed roadway sections. The GECP shall review reports prepared by ADP Firm section design consultants and determine acceptability for submission by the District to Austin for approval. The GECP shall provide plans, details, and calculations for the following pump station elements:

1. Structural design

2. Mechanical design
3. Electrical design

Deliverables

The GECP shall provide to the STATE:

1. Pump Station Preliminary and Final Reports.
2. Pump Station PS&E Standards and Details for Structural, Mechanical, and Electrical elements.

MANAGING CONTRACTED PS&E PE SERVICES (Function Code 164)**A. Plan Review**

1. Design Review Plan Oversight and Auditing. The GECP shall provide management oversight of the GECD's plan review of ADP Firm's design phase services for conformance with ADP contract requirements. The GECP shall also provide design resources for review of alternative technical concepts and proposed schematic design revisions submitted by prospective ADP Firms during procurement.
2. Design Plan Review Services. As requested by the STATE, the GECP shall provide management oversight and plan review of ADP Firm's design phase services for conformance with ADP contract requirements to include the following:
 - a. Design Review Plan outlining what design controls shall be used in each of the various stages of plan review (30, 60, 90 and 100 percent).
 - b. Plan reviews shall be conducted for all assigned disciplines including, but not limited to the following:
 - i. Roadway Design Controls (Function Code 160): Plan and profile sheets, typical sections, roadway details, environmental mitigation, and storm water pollution prevention plan (SW3P) controls.
 - ii. Drainage (Function Code 161): Drainage items in this task include, but are not limited to, bridges, culverts, storm sewer systems and channelization. All work shall conform to the State's Hydraulic Design Manual and SPO policies, methods and procedures.
 - iii. Signing, Pavement Markings, Signalization (Function Code 162): Signing, pavement markings, illumination, traffic signals, electrical details, and intelligent transportation systems (ITS).
 - iv. Miscellaneous Roadway (Function Code 163): Traffic Control Plan, detours, and construction sequencing including compliance with the latest Texas Manual on Uniform Traffic Control Devices (TMUTCD), retaining walls, and Toll Operations sheets including signing for managed or toll lanes, toll equipment locations, gantry design, closed-circuit television (CCTV), electrical supply detailing, and integration with existing toll operation systems.
 - v. Bridge Layouts and Bridge Design Details (Function Code 170).
 - vi. Constructability Reviews at major project development stages and design milestones to identify constructability issues and concerns including appropriate work areas and traffic control

accommodations. Constructability reviews shall be captured in a Constructability Report with identification of potential risks and conflicts and recommendations concerning risk mitigation and ADP contract conformance.

Deliverables:

1. Design Review Plan: The GECP shall oversee and audit the GECD's design review plan outlining what design controls shall be used in each of the various stages of plan review (30, 60, 90 and 100 percent). This deliverable shall be one report in a three-ring binder.
2. Review comments for all tasks listed above by discipline and function code, in a matrix format in both electronic and hard-copy format, as determined by the STATE's PM. Review comment forms should provide columns for ADP Firm's response to comments, and resolution of any discrepancies or plan deficiencies
3. Constructability Report, hard copy in a three-ring binder and electronic format.

B. Design Services and PS&E Preparation

For stand alone PS&E projects, the GECP shall utilize the latest manuals, methods and guidelines from the STATE and SPO resources. The GECP shall provide engineering services required for preparation of PS&E for associated activities that may include roadway plans, drainage plans, bridge plans, utility relocation plans, storm water permits, and maintenance of traffic control during construction relocation. These tasks may also involve coordination of plan revisions with applicable GECD to accommodate necessary utility relocations or adjustments.

PS&E development shall include the following as a minimum:

1. Assembling PS&E documents for submittal to Division for processing.
2. Identification, documentation, and submittal of requests for design exceptions or waivers.
3. Detailed design and plan development to include:
 - a. Roadway design (Function Code 160)
 - b. Drainage (Function Code 161)
 - c. Signing, Pavement Marking, Signalization (Function Code 162)
 - d. Miscellaneous (Roadway) (Function Code 163)
 - e. Traffic Management Systems (Permanent) (Function Code 165)
 - f. Bridge Design (Function Code 170)

Deliverables

1. All calculations and working drawings shall be submitted to the STATE.
2. Milestone design development submittals at 30, 60, 90, and final percent completion.
3. Final sheets signed and sealed by a licensed engineer in the STATE of Texas.

COMPREHENSIVE DEVELOPMENT AGREEMENT PROCUREMENT (Function Code 192)

The GECP shall provide engineering and planning support for the STATE's procurement effort for assigned projects or corridors.

The GEC shall use the STATES' Strategic Projects Division's electronic data management systems to file all ADP documents. This shall require meeting the STATE's Core Architecture and software requirements, formatting and security issues. The GECP shall provide the file structure documentation.

A. Engineering Support for Procurement:

The GEC shall perform the following:

1. Develop, assist and work in coordination with other STATE contracted parties in the development of Risk Assessment Analysis and Risk Allocation Document(s). Risk assessment and risk allocation shall be performed in accordance with the latest edition of the STATE's CDA Programmatic documents. The Engineer may be required to provide project specific risk reports, assessments, and matrix allocations.
2. Develop, coordinate, assist, and implement technical provisions and reference information documents (RID) of assigned project(s) with STATE Division and SPO Offices and Resource Agencies as directed by the STATE. The development of project specific technical provisions for the projects shall be based on the STATE's CDA Programmatic documents for ADPs and design-build contracts as appropriate. The Engineer shall provide project-specific technical provisions and reference information documents.
3. Develop, coordinate, assist, and implement technical provisions and reference information documents of assigned project(s) with third-party entities (i.e. third-party agreements with entities), including but not limited to other governmental agencies, utility and railroad companies, and private property owners. This task shall include obtaining permits necessary to comply with obligations cited in the Environmental Assessment, Environmental Impact Statement and with other STATE and Federal regulations, policies or requirements. The Engineer shall provide appropriate project-specific technical provisions and reference information documents.
4. Develop and coordinate schedule and workflow of activities for the Comprehensive Development Agreement (CDA) program and projects using software compatible with the STATE's scheduling software. The level of detail for schedules is dependent upon the current status of the project but at a minimum shall include all milestone activities identified by the STATE's ADP Program specialists, the STATE Division, STATE SPO Offices, or the STATE's advisors as directed by the STATE. The Engineer shall provide program and project schedules.
5. Provide planning services on candidate ADP projects. Planning services are defined as those services typically used in the area of transportation planning and may include research and analysis of existing traffic volumes and patterns, projected or anticipated municipal growth, urbanization, and operations. Planning services shall be performed in accordance with the latest edition of the STATE's Transportation Planning Manual. Assist with market valuation activities for candidate PPP/CDA projects in accordance with the latest edition of the STATE's CDA Implementation Manual. The Engineer shall provide appropriate project-specific planning drawings, reports, calculations, and analyses.
6. Assist the STATE in preparing procurement documents in accordance with the STATE's established CDA Program guidance as set forth by the CDA Program Administrator to include but not limited to their development, coordination, solicitation, securing responses, posting awards, etc and in accordance with the latest edition of the STATE's CDA Implementation Manual and the latest edition of the STATE's CDA Program Office Procedures Manual. The Engineer shall provide

project-specific procurement documents or sections of procurement documents as required. Procurement documents include instructions to proposers, technical provisions, and reference information documents.

7. Assist with the Industry Review Process of ADP projects in accordance with the latest edition of the STATE's CDA Implementation Manual including the preparation and review of industry review documents.
8. Assist with ADP Evaluation in accordance with the latest edition of the STATE's CDA Program Office Procedures Manual including document control, security of documents, transfer of materials, participant confidentiality, review of and comments on evaluation documents, development of evaluation criteria, participation in evaluation meetings, administrative assistance for evaluation meetings, and preparation of evaluation presentation materials. The Engineer shall provide all documentation relating to the evaluation process including document inventory, logs, transfer documents, and presentation materials.
9. Receive, log, evaluate and develop recommendations to the STATE regarding Proposer Alternative Technical Concepts (ATC). Identify key technical attributes needed for the timely and efficient review of ATCs and obtain STATE approval. Evaluate local and national trends related to ATCs, and as appropriate, incorporate into procedures manual and programmatic documents.
10. Develop operations and maintenance performance requirements including measurement method, response times and targets to be achieved. Develop operations and maintenance requirements that apply for operations and maintenance during construction and after the project achieve substantial completion. The Engineer shall develop handback provisions that govern the condition in which a project shall be handed back to the STATE at the end of the ADP contract

Deliverables:

The GEC shall submit to the STATE:

1. A draft and final GECP report, as requested by the STATE's PM for all supporting plan and specification documents required for a project specific or corridor PPP/CDA procurement.
2. Working and final drawings to include schematics, exhibits, and attachments for inclusion with ADP procurement requests.
3. Record of all meetings held with ADP Firms and prospective ADP Firms and industry concerning an ADP procurement.
4. Plans, sketches, and cost estimates used to assess feasibility of an assigned project or corridor for a potential ADP procurement.
5. Record of all executed confidentiality records.
6. Record of risk registers developed and periodic update concerning status of risks and identified mitigation efforts.

B. BOND ISSUANCE

1. The GECP shall assist the STATE staff and its financial investment bankers, bond council, and traffic and revenue consultant (collectively, the "marketing committee") in modifying and excerpting portions of the final report for inclusion in the official statement. The GECP shall participate in meetings with the marketing committee to plan the sale of bonds, to assist in the writing of the official statement and the trust agreement, and to meet with rating agencies, major investors, and bond insurers.

2. The GECP shall perform services specifically required of the Engineer in the official statement and trust agreement supporting the bond issuances for the turnpike during development and after the turnpike becomes operational.
3. The GECP shall provide input into matters relating to toll rates, toll collection plans, toll plaza configuration modes, and toll operations for the turnpike during development and after the turnpike becomes operational per the need assessment by STATE.
4. The GECP shall provide periodic reports, including monthly, quarterly or annual as requested by the STATE, on the progress of the project's construction and operations and maintenance, along with the traffic and revenue collected on the facility.
5. Annual Inspections or Emergency Inspections. The GECP shall perform, or manage the GECC performance of, any annual inspection required by the Trust Indentures that secures a project's revenue bonds for a period as designated by the STATE. An inspection report will be provided that prioritizes maintenance and rehabilitation needs of the system. Additionally, this service will provide on call services which may include: call outs on emergency or as needed situations to provide recommendations, prepare reports, design and oversight services for repairs and maintenance.
 - a. Provide inspection of the roadway systems including the following roadway elements: pavement deterioration and failures, rails, pavement markings, illumination, safety features, ditches, culverts, pipe crossings, detention ponds, retaining walls, large overhead signs (2-year cycle) and small roadside signs (2 year cycle), overhead sign structures (5-year cycle) and high mast light poles (5-year cycle).
 - b. Provide inspection of the bridge structures including the following elements: joints (armor, expansion, terminal anchors), bearing pads, bents and abutments (backwalls, columns, caps), beams and diaphragms, bottom side of slab, columns, and rip rap.
 - c. Observe, report and evaluate, the following facility (building) components: buildings, roofs, parking lots and driveways, toll plazas (buildings and tunnels), and pump stations (engines, pumps, and generators).
 - d. Rate the condition of each of these roadways, structures and facilities independent of each other. The weighted ratings on all elements will then be summed to determine the systems overall "condition assessment" rating.
 - e. Develop and submit report of inspection findings. This report will be in a format that the STATE can present to Trust Indenture as the entity that secures the Revenue Bonds. This report shall include a maintenance program that addresses areas of major concern (required action within next 2 years). The recommendation will use a cost-to-benefit ratio along with an Engineer's estimate.
 - f. Provide a 5-year plan indicating which of the roadway elements should be addressed (re-inspected, repaired or replaced). A 5-year plan for the building elements will not be included.
 - g. Provide on call services for the following: call outs on emergency or as needed situations, provide recommendations, manage sub consultants, prepare reports, investigations, in-depth bridge investigations, prepare design and field oversight/inspection services for repairs, and maintenance on an as-needed basis.

Deliverables:

The GEC shall provide to the STATE:

3. Input to the financial advisor's financial model and traffic & revenue consultant's model and analysis.
4. Submit a Project Bond Issuance Support Services section of the PIP.
5. Submit quarterly program status updates for all bond issuance support services.
6. Submit annual inspection or emergency inspection reports.
7. One time, submit a closeout report of bond issuance support services activities at the end of the active service period.

Construction Engineering, not Otherwise Classified (Function Code 390)

The GECP shall oversee and audit the GECC services and shall monitor and report on key elements of the ADP Firms construction activities. When requested by the STATE, the GECP shall perform the following services:

A. CONSTRUCTION INSPECTION AND MANAGEMENT

The GECP shall support the STATE to develop the Construction Project Implementation Plan (CPIP) in general accordance with Federal Highway Administration (FHWA) guidelines that shall contain the GECs policies and procedures based on the STATE's established criteria and standards. The CPIP will become part of the GECP's PIP. The GECP shall oversee and audit the implementation of the CPIP.

Meetings shall be documented with agendas and meeting summary notes to capture meeting highlights and action plans. Goals and objectives shall be tracked and action items followed up and closed out from meeting to meeting. Results of the GECP/GECC meetings shall be reported and utilized to inform the STATE for the, guidance, and direction of the ADP Firm.

The GECP's CMO functions shall be overseen by a qualified professional, acting as a member of the GECP's management group. Development, deployment, operation, maintenance and closeout of the GECP's CMO shall be fully described in the GECP's PIP. The GECP's duties do not relieve the ADP Firm of its obligations, duties, and responsibilities relating to planning and design of the project, including but not limited to all means and methods, scheduling, environmental compliance, and safety for its employees and the public.

The GECP, as requested by the STATE, shall provide construction field personnel to support the STATE and operate as part of the construction oversight team providing owner verification testing and inspection (OVT&I) and conducting audits to verify the ADP Firm's compliance with their approved construction quality assurance program (QAP) as found in the ADP Firm's project management plan (PMP). The GECs shall establish a system for managing the materials acceptance process through I2MS. This process shall include the performance and approval of owner verification tests at a stipulated test frequency, review of quality assurance test results, performance of statistical analysis of owner verification and quality assurance test results and associated tasks arising out of the statistical analysis. The GECP shall prepare FHWA's Quarterly Reports.

The GECP, as requested by the STATE, shall maintain and submit records monthly that include factual evidence that required activities and tests have been performed, including the following: (i) type, number and results of QAP activities, including reviews, inspections, tests, audits, monitoring of work performance, and materials analysis; (ii) related data, such as qualifications of personnel, procedures, and equipment used; (iii) the inspector or data recorder, the type of tests or observation employed, the

results and acceptability of the work, and action taken in connection with deficiencies; (iv) nature of nonconforming work and causes of rejection; (v) proposed corrective action for nonconforming work; and (vi) corrective actions taken with respect to nonconforming work; and (vii) results of such corrective action.

B. CMO Review of the ADP Firm's PMP

The GECP shall support the GECC in review of the ADP Firm's PMP.

1. Review GECC's compliance report of ADP PMP

Deliverables:

The GECP shall provide to the STATE:

1. Records of meeting agendas, meeting notes, project schedules, reports, and documentation as determined by project control processes and as necessary for each meeting within five (5) working days of request.
2. Record of all audit reports, reviewed, or produced within five (5) working days of request.
3. Quarterly reports in three-ring binders containing the GECP's comments, recommendations and reviews.
4. Submit a final closeout report of CMO activities at the end of Project.

MAINTENANCE TRANSITION OVERSIGHT (MTO) (Function Code 351)

The GECP shall be responsible for monitoring and reporting on key elements of the ADP Firm's activities associated with its transition from capital improvement design and construction to maintenance work.

A. Operations and Maintenance Oversight

1. The GECP shall, oversee the transition from the Design/Construction Phase to Maintenance Phase and oversee transition of the ADP Firm's or Design-Builder's management and execution based on the COMA on behalf of the STATE.
2. The GECP shall oversee the management of the COMA , CMA, or other ADP maintenance agreement including review and commenting on the draft maintenance plan and maintenance management plan.
3. The GECP shall review and comment on the capital asset replacement work submittal from the ADP Firm along with subsequent drafts and updates.
4. The GEC shall review and comment on the traffic management plan from the ADP Firm and periodic updates to the traffic management plan.
5. The GECP shall review and comment on unplanned capital maintenance and change orders as submitted by the ADP Firm or as requested by the STATE.

6. The GECP shall review all submittals from the ADP Firm for the CMA, COMA, or other type maintenance agreements.
7. The GEC shall review and conduct audits including field audits of ADP Firms during the maintenance term for verification of compliance with ADP contract and shall provide oversight of owner verification of testing as requested by the STATE.

B. MTO Review of Transition Plan

1. Monitor, review, and comment on the ADP Firm's or Design-Builder's plan for the transition of responsibility between the construction phase and the operations and maintenance phase, and confirm that the plan is properly documented in the PMP and the maintenance operators Documents and Maintenance Management Plan (MMP). Facilitate the definition and clarification of the separate maintenance responsibilities between STATE forces, the Maintenance Contractor, and facilitate resolution of conflicts within the limits of the STATE's and GEC PM's authority.
2. Provide oversight and coordination assistance with Substantial Completion, Punch List, and Final Acceptance activities to aid in the transition of responsibilities from ADP Firm/Design-Builder and GECC to oversight by the GEC O&M, Maintenance Contractor, and TxDOT maintenance personnel.
3. Provide oversight and coordination as needed throughout the COMA or CMA.

DELIVERABLES:

The GECP shall provide to the STATE:

1. Submit a final closeout report of Maintenance Transition Oversight activities at both Final Acceptance and completion of the COMA or CMA.

ATTACHMENT D
D-1
WORK AUTHORIZATION NO. _____
CONTRACT FOR ENGINEERING SERVICES

THIS WORK AUTHORIZATION is made pursuant to the terms and conditions of Article 5 of Engineering Contract No. _____ (the Contract) entered into by and between the State of Texas, acting by and through the Texas Department of Transportation (the State), and _____ (the Engineer).

PART I. The Engineer will perform engineering services generally described as _____ in accordance with the project description attached hereto and made a part of this Work Authorization. The responsibilities of the State and the Engineer as well as the work schedule are further detailed in exhibits A, B and C which are attached hereto and made a part of the Work Authorization.

PART II. The maximum amount payable under this Work Authorization is \$_____ and the method of payment is _____ as set forth in Attachment E of the Contract. This amount is based upon fees set forth in Attachment E, Fee Schedule, of the Contract and the Engineer's estimated Work Authorization costs included in Exhibit D, Fee Schedule, which is attached and made a part of this Work Authorization.

PART III. Payment to the Engineer for the services established under this Work Authorization shall be made in accordance with Articles 3 thru 5 of the contract, and Attachment A, Article 1.

PART IV. This Work Authorization shall become effective on the date of final acceptance of the parties hereto and shall terminate on _____, unless extended by a supplemental Work Authorization as provided in Attachment A, Article 1.

The maximum contract time is the time needed to complete all work authorizations that will be issued in the first five years of the contract. All work authorizations must be issued within the initial five-year period, starting from the contract execution date.

PART V. This Work Authorization does not waive the parties' responsibilities and obligations provided under the Contract.

IN WITNESS WHEREOF, this Work Authorization is executed in duplicate counterparts and hereby accepted and acknowledged below.

THE ENGINEER

THE STATE OF TEXAS

 (Signature)

 (Printed Name)

 (Title)

 (Date)

 (Signature)

 (Printed Name)

 (Title)

 (Date)

LIST OF EXHIBITS

Exhibit A	Services to be provided by the State
Exhibit B	Services to be provided by the Engineer
Exhibit C	Work Schedule
Exhibit D	Fee Schedule/Budget
Exhibit H-2	Subprovider Monitoring System Commitment Agreement

ATTACHMENT D
D-2
SUPPLEMENTAL WORK AUTHORIZATION NO. ____
WORK AUTHORIZATION NO. ____
CONTRACT FOR ENGINEERING SERVICES

THIS SUPPLEMENTAL WORK AUTHORIZATION is made pursuant to the terms and conditions of Article 5 Contract No. _____ hereinafter identified as the "Contract," entered into by and between the State of Texas, acting by and through the Texas Department of Transportation (the State), and _____ (the Engineer).

The following terms and conditions of Work Authorization No. ____ are hereby amended as follows:

This Supplemental Work Authorization shall become effective on the date of final execution of the parties hereto. All other terms and conditions of Work Authorization No. ____ not hereby amended are to remain in full force and effect.

IN WITNESS WHEREOF, this Supplemental Work Authorization is executed in duplicate counterparts and hereby accepted and acknowledged below.

THE ENGINEER

THE STATE OF TEXAS

(Signature)

(Printed Name)

(Title)

(Date)

(Signature)

(Printed Name)

(Title)

(Date)

ATTACHMENT E

FEE SCHEDULE (Final Cost Proposal)

This attachment provides the basis of payment and fee schedule. **The basis of payment for this contract is indicated by an "X" in the applicable box.** The basis shall be supported by the Final Cost Proposal (FCP) shown below. If more than one basis of payment is used, each one must be supported by a separate FCP.

"X"	Basis	
<u>X</u>	Lump Sum	The lump sum shall be equal to the maximum amount payable. The lump sum includes all direct and indirect costs and fixed fee. The Engineer shall be paid pro rata based on the percentage of work completed. For payment the Engineer is not required to provide evidence of actual hours worked, travel, overhead rates or other evidence of cost.
_____	Unit Cost	The unit cost(s) for each type of unit and number of units are shown in the FCP. The unit cost includes all direct and indirect costs and fixed fee. The Engineer shall be paid based on the type and number of units fully completed and the respective unit cost. For payment, the Engineer is not required to provide evidence of actual hours worked, travel, overhead rates or any other cost data. The FCP may include special items, such as equipment which are not included in the unit costs. Documentation of these special costs may be required. The maximum amount payable equals the total of all units times their respective unit cost plus any special direct items shown.
<u>X</u>	Specified Rate Basis	The specified rates for each type of labor are shown in the FCP below. The FCP may include special items, such as equipment which are not included in the specified rates. Payment shall be based on the actual hours worked multiplied by the specified rate for each type of labor plus other agreed to special direct cost items. The specified rate includes direct labor and indirect cost and fixed fee. The State may request documentation of reimbursable direct costs including hours worked. Documentation of special item costs may be required. The specified rate is not subject to audit.
<u>X</u>	Cost Plus Fixed Fee	<p>Payment shall be based on direct and indirect costs incurred <u>plus</u> a pro rata share of the fixed fee based on the ratio of <u>labor and overhead cost incurred to total estimated labor and overhead cost in the FCP</u> or the percentage of work completed. The invoice must itemize labor rates, hours worked, other direct costs and indirect costs. The Engineer may be required to provide documentation of hours worked and any eligible direct costs claimed. The provisional overhead rate charged is subject to audit and adjustment to actual rates incurred. The FCP below shows the hourly rates for labor, other direct expenses including but not limited to travel and allowable materials, provisional overhead rate and the fixed fee.</p> <p style="margin-left: 40px;"> <u> </u> A. Actual Cost Plus Fixed Fee - Actual wages are paid (no minimum, no maximum. This option does not apply to Indefinite Deliverable Contracts.) <u>X</u> B. Range of Cost Plus Fixed Fee – Actual wages <u>must</u> be within the allowable range shown on the Final Cost Proposal. </p>

ATTACHMENT E – FEE SCHEDULE

Final Cost Proposal (FCP) Supporting Basis of Payment

* The **MAXIMUM AMOUNT PAYABLE** is \$15,000,000.00.

The maximum amount payable is based on the following data and calculations:

* Maximum amount payable must be negotiated for each work authorization.

**ATTACHMENT E - FEE SCHEDULE
SPECIFIED RATE AND LUMP SUM PAYMENT BASIS**

PRIME PROVIDER NAME: Brown & Gay Engineers, Inc.

Labor/Staff Classification	Years of Experience	Hourly Base Rate	Direct Labor					
			Contract Rate 2015		Contract Rate 2017		Contract Rate 2019	
			Field	Office	Field	Office	Field	Office
Senior Advisor	25+	88.00	\$226.96	\$244.97	\$233.82	\$252.38	\$240.88	\$260.00
Project Manager	25+	90.00	\$232.12	\$250.54	\$239.13	\$258.11	\$246.36	\$265.91
Deputy Project Manager	20+	75.00	\$193.43	\$208.78	\$199.28	\$215.09	\$205.30	\$221.59
Senior Contract and Claims Manager	20+	75.00	\$193.43	\$208.78	\$199.28	\$215.09	\$205.30	\$221.59
Quality Manager	15+	65.00	\$167.64	\$180.95	\$172.71	\$186.41	\$177.93	\$192.05
Senior Engineer	20+	69.00	\$177.96	\$192.08	\$183.33	\$197.89	\$188.88	\$203.87
Project Engineer	10 to 15	60.00	\$154.74	\$167.03	\$159.42	\$172.07	\$164.24	\$177.28
Design Engineer	5 to 10	48.50	\$125.08	\$135.01	\$128.87	\$139.09	\$132.76	\$143.30
Engineer IV	15 to 20	62.00	\$159.90	\$172.59	\$164.73	\$177.81	\$169.71	\$183.18
Engineer-In-Training	1 to 5	32.00	\$ 82.53	\$ 89.08	\$ 85.02	\$ 91.77	\$ 87.59	\$ 94.55
ROW Coordinator	10+	40.00	\$103.16	\$111.35	\$106.28	\$114.72	\$109.49	\$118.18
Senior Engineer Tech	15+	36.00	\$ 92.85	\$100.22	\$ 95.65	\$103.24	\$ 98.54	\$106.37
Engineer Tech	5 to 15	30.00	\$ 77.37	\$ 83.51	\$ 79.71	\$ 86.04	\$ 82.12	\$ 88.64
Junior Engineer Tech	1 to 5	24.00	\$ 61.90	\$ 66.81	\$ 63.77	\$ 68.83	\$ 65.70	\$ 70.91
Senior Environmental Manager	20+	65.00	\$167.64	\$180.95	\$172.71	\$186.41	\$177.93	\$192.05
Senior Environmental/Planner	15+	55.00	\$141.85	\$153.11	\$146.14	\$157.74	\$150.55	\$162.50
Environmental/Planner IV	10 to 15	45.00	\$116.06	\$125.27	\$119.57	\$129.06	\$123.18	\$132.96
Environmental Planner	5 to 10	35.00	\$ 90.27	\$ 97.43	\$ 93.00	\$100.38	\$ 95.81	\$103.41
Graphic Designer	5+	30.00	\$ 77.37	\$ 83.51	\$ 79.71	\$ 86.04	\$ 82.12	\$ 88.64
Senior Public Involvement Specialist	15+	50.00	\$128.95	\$139.19	\$132.85	\$143.40	\$136.87	\$147.73
Public Involvement Specialist	5 to 15	35.00	\$ 90.27	\$ 97.43	\$ 93.00	\$100.38	\$ 95.81	\$103.41
Project Controls Manager	15+	48.00	\$123.79	\$133.62	\$127.54	\$137.66	\$131.39	\$141.82
Senior Project Controls	10+	38.00	\$ 98.00	\$105.78	\$100.97	\$108.98	\$104.02	\$112.27
Senior Document Controls Specialist	5 to 10	43.00	\$110.90	\$119.70	\$114.25	\$123.32	\$117.70	\$127.05
Document Controls Specialist	1 to 5	28.00	\$ 72.21	\$ 77.95	\$ 74.40	\$ 80.30	\$ 76.64	\$ 82.73
Senior Scheduler	15+	65.00	\$167.64	\$180.95	\$172.71	\$186.41	\$177.93	\$192.05
Scheduler IV	10 to 15	50.00	\$128.95	\$139.19	\$132.85	\$143.40	\$136.87	\$147.73
Senior Project Analyst	5 to 15	31.00	\$ 79.95	\$ 86.30	\$ 82.37	\$ 88.91	\$ 84.86	\$ 91.59
Project Analyst	1 to 5	26.00	\$ 67.06	\$ 72.38	\$ 69.08	\$ 74.57	\$ 71.17	\$ 76.82
Senior Network Engineer	15+	34.00	\$ 87.69	\$ 94.65	\$ 90.34	\$ 97.51	\$ 93.07	\$100.46
Network Engineer	5 to 15	29.00	\$ 74.79	\$ 80.73	\$ 77.05	\$ 83.17	\$ 79.38	\$ 85.68
Admin/Clerical II	10+	25.00	\$ 64.48	\$ 69.59	\$ 66.43	\$ 71.70	\$ 68.43	\$ 73.86
Admin/Clerical I	5 to 10	20.00	\$ 51.58	\$ 55.68	\$ 53.14	\$ 57.36	\$ 54.75	\$ 59.09
Senior GIS Analyst	15+	35.00	\$ 90.27	\$ 97.43	\$ 93.00	\$100.38	\$ 95.81	\$103.41
GIS Analyst	5 to 15	28.00	\$ 72.21	\$ 77.95	\$ 74.40	\$ 80.30	\$ 76.64	\$ 82.73
3-D Visualization Manager	15+	35.00	\$ 90.27	\$ 97.43	\$ 93.00	\$100.38	\$ 95.81	\$103.41
3-D Visualization Specialist	5 to 15	29.00	\$ 74.79	\$ 80.73	\$ 77.05	\$ 83.17	\$ 79.38	\$ 85.68
Senior Tolls Specialist	20+	70.00	\$180.53	\$194.86	\$185.99	\$200.75	\$191.61	\$206.82
Toll Specialist II	15+	54.00	\$139.27	\$150.32	\$143.48	\$154.87	\$147.82	\$159.55

**ATTACHMENT E - FEE SCHEDULE
SPECIFIED RATE AND LUMP SUM PAYMENT BASIS**

PRIME PROVIDER NAME: Brown & Gay Engineers, Inc.

Labor/Staff Classification	Direct Labor							
	Years of Experience	Hourly Base Rate	Contract Rate 2015		Contract Rate 2017		Contract Rate 2019	
			Field	Office	Field	Office	Field	Office
Senior Utility Coordinator	15+	40.00	\$103.16	\$111.35	\$106.28	\$114.72	\$109.49	\$118.18
Utility Coordinator	5 to 10	33.00	\$ 85.11	\$ 91.86	\$ 87.68	\$ 94.64	\$ 90.33	\$ 97.50
SUE Field Manager	15+	32.00	\$ 82.53	\$ 89.08	\$ 85.02	\$ 91.77	\$ 87.59	\$ 94.55
Senior Resident Engineer	15+	63.00	\$162.48	\$175.38	\$167.39	\$180.68	\$172.45	\$186.14
Resident Engineer	5 to 15	55.00	\$141.85	\$153.11	\$146.14	\$157.74	\$150.55	\$162.50
Senior Field Rep	15+	38.00	\$ 98.00	\$105.78	\$100.97	\$108.98	\$104.02	\$112.27
Field Rep	5 to 15	31.00	\$ 79.95	\$ 86.30	\$ 82.37	\$ 88.91	\$ 84.86	\$ 91.59
Environmental Inspector	1 to 5	30.00	\$ 77.37	\$ 83.51	\$ 79.71	\$ 86.04	\$ 82.12	\$ 88.64
ROW Coordinator	10 to 15	45.00	\$116.06	\$125.27	\$119.57	\$129.06	\$123.18	\$132.96
Senior RPLS	20+	55.00	\$141.85	\$153.11	\$146.14	\$157.74	\$150.55	\$162.50
RPLS	5 to 15	46.00	\$118.64	\$128.05	\$122.22	\$131.92	\$125.92	\$135.91
Mobility Coordinator	10+	45.00	\$116.06	\$125.27	\$119.57	\$129.06	\$123.18	\$132.96
Contract Administrator	15+	38.00	\$ 98.00	\$105.78	\$100.97	\$108.98	\$104.02	\$112.27
Office Overhead Rate:		153.07%						
Field Overhead Rate:		134.46%						
Profit Rate:		10.00%						

Contract Rates include labor, overhead, and profit.

All rates are negotiated rates and are not subject to change or adjustment.

For Specified Rate Payment Basis - Contract rates to be billed. Documentation of hours must be maintained and is subject to audit.

For Lump Sum Payment Basis - Invoice by deliverable, according to the table of deliverables. Documentation of hours worked not required.

Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.

ATTACHMENT E - FEE SCHEDULE SPECIFIED RATE AND LUMP SUM PAYMENT BASIS

SUBPROVIDER NAME: CDM Smith, Inc.

Labor/Staff Classification	Years of Experience	Hourly Base Rate	Direct Labor					
			Contract Rate 2015		Contract Rate 2017		Contract Rate 2019	
			Field	Office	Field	Office	Field	Office
Senior Advisor	20+	103.00	\$243.38	\$312.30	\$250.74	\$321.74	\$258.31	\$331.46
Quality Manager	15+	72.00	\$170.13	\$218.31	\$175.27	\$224.91	\$180.57	\$231.70
Senior Engineer	20+	103.00	\$243.38	\$312.30	\$250.74	\$321.74	\$258.31	\$331.46
Engineer IV	15 to 20	67.00	\$158.31	\$203.15	\$163.10	\$209.29	\$168.03	\$215.61
Engineer III	10 to 15	60.00	\$141.77	\$181.92	\$146.06	\$187.42	\$150.47	\$193.09
Engineer II	5 to 10	40.00	\$ 94.52	\$121.28	\$ 97.37	\$124.95	\$100.32	\$128.72
Engineer-In-Training	1 to 5	30.00	\$ 70.89	\$ 90.96	\$ 73.03	\$ 93.71	\$ 75.24	\$ 96.54
Senior Engineer Tech	15+	33.00	\$ 77.98	\$100.06	\$ 80.33	\$103.08	\$ 82.76	\$106.20
Engineer Tech	5 to 15	27.00	\$ 63.80	\$ 81.87	\$ 65.73	\$ 84.34	\$ 67.71	\$ 86.89
Junior Engineer Tech	0 to 5	24.00	\$ 56.71	\$ 72.77	\$ 58.42	\$ 74.97	\$ 60.19	\$ 77.23
Transportation Analyst II	5+	32.00	\$ 75.61	\$ 97.03	\$ 77.90	\$ 99.96	\$ 80.25	\$102.98
Transportation Analyst I	0 to 5	27.00	\$ 63.80	\$ 81.87	\$ 65.73	\$ 84.34	\$ 67.71	\$ 86.89
Senior CADD Operator	15+	38.00	\$ 89.79	\$115.22	\$ 92.50	\$118.70	\$ 95.30	\$122.29
CADD Operator	5 to 15	33.00	\$ 77.98	\$100.06	\$ 80.33	\$103.08	\$ 82.76	\$106.20
Sr Travel Demand Modeler/Planner	20+	70.00	\$165.40	\$212.24	\$170.40	\$218.66	\$175.55	\$225.27
Travel Demand Modeler III	15-20	66.00	\$155.95	\$200.11	\$160.67	\$206.16	\$165.52	\$212.39
Travel Demand Modeler II	5 to 15	43.00	\$101.61	\$130.38	\$104.68	\$134.32	\$107.84	\$138.38
Travel Demand Modeler I	0-5	27.00	\$ 63.80	\$ 81.87	\$ 65.73	\$ 84.34	\$ 67.71	\$ 86.89
Economist III	15+	52.00	\$122.87	\$157.67	\$126.59	\$162.43	\$130.41	\$167.34
Economist II	5-15	43.00	\$101.61	\$130.38	\$104.68	\$134.32	\$107.84	\$138.38
Economist I	0-5	28.00	\$ 66.16	\$ 84.90	\$ 68.16	\$ 87.46	\$ 70.22	\$ 90.11
Senior Planner	15+	70.00	\$165.40	\$212.24	\$170.40	\$218.66	\$175.55	\$225.27
Planner II	5 to 15	44.00	\$103.97	\$133.41	\$107.11	\$137.44	\$110.35	\$141.60
Planner I	0 to 5	26.00	\$ 61.44	\$ 78.83	\$ 63.29	\$ 81.22	\$ 65.21	\$ 83.67
Senior Project Analyst	10+	35.00	\$ 82.70	\$106.12	\$ 85.20	\$109.33	\$ 87.78	\$112.63
Admin/Clerical I	5 to 10	25.00	\$ 59.07	\$ 75.80	\$ 60.86	\$ 78.09	\$ 62.70	\$ 80.45
Project Administrator	10+	35.00	\$ 82.70	\$106.12	\$ 85.20	\$109.33	\$ 87.78	\$112.63
Senior Tolls Advisor	15+	95.00	\$224.48	\$288.04	\$231.26	\$296.75	\$238.25	\$305.72
Tolls Advisor	5 to 15	66.00	\$155.95	\$200.11	\$160.67	\$206.16	\$165.52	\$212.39
GIS Analyst	5 to 15	36.00	\$ 85.06	\$109.15	\$ 87.64	\$112.45	\$ 90.28	\$115.85
GIS Specialist	0 to 5	28.00	\$ 66.16	\$ 84.90	\$ 68.16	\$ 87.46	\$ 70.22	\$ 90.11
Office Overhead Rate:		175.64%						
Field Overhead Rate:		114.81%						
Profit Rate:		10.00%						

Contract Rates include labor, overhead, and profit.

All rates are negotiated rates and are not subject to change or adjustment.

For Specified Rate Payment Basis - Contract rates to be billed. Documentation of hours must be maintained and is subject to audit.

For Lump Sum Payment Basis - Invoice by deliverable, according to the table of deliverables. Documentation of hours worked not not required.

Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.

**ATTACHMENT E - FEE SCHEDULE
SPECIFIED RATE AND LUMP SUM PAYMENT BASIS**

SUBPROVIDER NAME: Civil Associates, Inc.

Labor/Staff Classification	Years of Experience	Hourly Base Rate	Direct Labor					
			Contract Rate 2015		Contract Rate 2017		Contract Rate 2019	
			Field	Office	Field	Office	Field	Office
Senior Engineer	20+	72.00	\$174.98	\$208.63	\$180.27	\$214.93	\$185.71	\$221.43
Engineer IV	15 to 20	67.00	\$162.83	\$194.14	\$167.75	\$200.01	\$172.82	\$206.05
Engineer III	10 to 15	50.00	\$121.51	\$144.88	\$125.18	\$149.26	\$128.97	\$153.77
Engineer II	5 to 10	43.00	\$104.50	\$124.60	\$107.66	\$128.36	\$110.91	\$132.24
Engineer-In-Training	1 to 5	33.00	\$ 80.20	\$ 95.62	\$ 82.62	\$ 98.51	\$ 85.12	\$101.49
Senior CADD Operator	15+	38.00	\$ 92.35	\$110.11	\$ 95.14	\$113.44	\$ 98.02	\$116.87
CADD Operator	5 to 15	28.00	\$ 68.05	\$ 81.13	\$ 70.10	\$ 83.59	\$ 72.22	\$ 86.11
Admin/Clerical I	5 to 10	21.00	\$ 51.03	\$ 60.85	\$ 52.58	\$ 62.69	\$ 54.17	\$ 64.58
Senior Planner	15+	60.00	\$145.81	\$173.86	\$150.22	\$179.11	\$154.76	\$184.53
Planner IV	10 to 15	44.50	\$108.15	\$128.94	\$111.41	\$132.84	\$114.78	\$136.86
Planner III	5 to 10	35.00	\$ 85.06	\$101.42	\$ 87.63	\$104.48	\$ 90.28	\$107.64
Planner I/II	1 to 5	29.00	\$ 70.48	\$ 84.03	\$ 72.61	\$ 86.57	\$ 74.80	\$ 89.19
Senior Engr Tech	15+	39.00	\$ 94.78	\$113.01	\$ 97.64	\$116.42	\$100.59	\$119.94
Engineer Tech	5 to 15	31.00	\$ 75.34	\$ 89.83	\$ 77.61	\$ 92.54	\$ 79.96	\$ 95.34
Project Controller	10+	30.00	\$ 72.91	\$ 86.93	\$ 75.11	\$ 89.56	\$ 77.38	\$ 92.26
		Office Overhead Rate:	163.42%					
		Field Overhead Rate:	120.93%					
		Profit Rate:	10.00%					

Contract Rates include labor, overhead, and profit.

All rates are negotiated rates and are not subject to change or adjustment.

For Specified Rate Payment Basis - Contract rates to be billed. Documentation of hours must be maintained and is subject to audit.

For Lump Sum Payment Basis - Invoice by deliverable, according to the table of deliverables. Documentation of hours worked not required.

Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.

ATTACHMENT E - FEE SCHEDULE SPECIFIED RATE AND LUMP SUM PAYMENT BASIS

SUBPROVIDER NAME: MAS-TEK Engineering & Associates, Inc.

Labor/Staff Classification	Years of Experience	Hourly Base Rate	Direct Labor					
			Contract Rate 2015		Contract Rate 2017		Contract Rate 2019	
			Field	Office	Field	Office	Field	Office
Senior Engineer	20+	60.00	\$125.40	\$138.60	\$129.19	\$142.79	\$133.09	\$147.10
Engineer IV	15 to 20	50.00	\$104.50	\$115.50	\$107.66	\$118.99	\$110.91	\$122.59
Engineer III	10 to 15	44.00	\$ 91.96	\$101.64	\$ 94.74	\$104.71	\$ 97.60	\$107.88
Engineer II	5 to 10	36.00	\$ 75.24	\$ 83.16	\$ 77.51	\$ 85.67	\$ 79.86	\$ 88.26
Senior Engineer Tech	15+	28.00	\$ 58.52	\$ 64.68	\$ 60.29	\$ 66.63	\$ 62.11	\$ 68.65
Engineer Tech	5 to 15	24.00	\$ 50.16	\$ 55.44	\$ 51.68	\$ 57.12	\$ 53.24	\$ 58.84
Admin/Clerical I	5 to 10	20.00	\$ 41.80	\$ 46.20	\$ 43.06	\$ 47.60	\$ 44.36	\$ 49.03
Senior CADD Technician	15+	30.00	\$ 62.70	\$ 69.30	\$ 64.60	\$ 71.39	\$ 66.55	\$ 73.55
CADD Technician II	5 to 15	24.00	\$ 50.16	\$ 55.44	\$ 51.68	\$ 57.12	\$ 53.24	\$ 58.84
Senior Environmental / Planner	15+	50.00	\$104.50	\$115.50	\$107.66	\$118.99	\$110.91	\$122.59
Environmental / Planner III	10 to 15	42.00	\$ 87.78	\$ 97.02	\$ 90.43	\$ 99.95	\$ 93.17	\$102.97
Environmental / Planner II	5 to 10	34.00	\$ 71.06	\$ 78.54	\$ 73.21	\$ 80.91	\$ 75.42	\$ 83.36
Senior Inspector	20+	35.00	\$ 73.15	\$ 80.85	\$ 75.36	\$ 83.29	\$ 77.64	\$ 85.81
Inspector	10+	25.00	\$ 52.25	\$ 57.75	\$ 53.83	\$ 59.50	\$ 55.46	\$ 61.29
Scheduler III	20+	50.00	\$104.50	\$115.50	\$107.66	\$118.99	\$110.91	\$122.59
Scheduler II	15+	44.00	\$ 91.96	\$101.64	\$ 94.74	\$104.71	\$ 97.60	\$107.88
Senior Estimator	20+	50.00	\$104.50	\$115.50	\$107.66	\$118.99	\$110.91	\$122.59
Estimator	10+	40.00	\$ 83.60	\$ 92.40	\$ 86.13	\$ 95.19	\$ 88.73	\$ 98.07
Junior Inspector	5+	25.00	\$ 52.25	\$ 57.75	\$ 53.83	\$ 59.50	\$ 55.46	\$ 61.29
Admin/Clerical II	10+	27.00	\$ 56.43	\$ 62.37	\$ 58.14	\$ 64.26	\$ 59.89	\$ 66.20
Senior Utility Coordinator	15+	44.00	\$ 91.96	\$101.64	\$ 94.74	\$104.71	\$ 97.60	\$107.88
Utility Coordinator	5 to 10	33.00	\$ 68.97	\$ 76.23	\$ 71.05	\$ 78.53	\$ 73.20	\$ 80.91
Project Controls Manager	15+	48.00	\$100.32	\$110.88	\$103.35	\$114.23	\$106.48	\$117.68
Senior Project Controls	10+	38.00	\$ 79.42	\$ 87.78	\$ 81.82	\$ 90.43	\$ 84.29	\$ 93.17
Senior Document Controls Specialist	5 to 10	48.00	\$100.32	\$110.88	\$103.35	\$114.23	\$106.48	\$117.68
Document Controls Specialist	1 to 5	28.00	\$ 58.52	\$ 64.68	\$ 60.29	\$ 66.63	\$ 62.11	\$ 68.65
Office Overhead Rate:		110.00%						
Field Overhead Rate:		90.00%						
Profit Rate:		10.00%						

Contract Rates include labor, overhead, and profit.

All rates are negotiated rates and are not subject to change or adjustment.

For Specified Rate Payment Basis - Contract rates to be billed. Documentation of hours must be maintained and is subject to audit.

For Lump Sum Payment Basis - Invoice by deliverable, according to the table of deliverables. Documentation of hours worked not required.

Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.

**ATTACHMENT E - FEE SCHEDULE
SPECIFIED RATE AND LUMP SUM PAYMENT BASIS**

SUBPROVIDER NAME: White Hawk Engineering & Design, LLC

Labor/Staff Classification	Years of Experience	Hourly Base Rate	Direct Labor					
			Contract Rate 2015		Contract Rate 2017		Contract Rate 2019	
			Field	Office	Field	Office	Field	Office
Engineer I	1 to 5	31.00	\$ 87.54	\$106.32	\$ 90.19	\$109.53	\$ 92.91	\$112.84
Design Engineer	5 to 10	40.00	\$112.96	\$137.19	\$116.37	\$141.33	\$119.89	\$145.61
Project Engineer	10 to 15	50.48	\$142.55	\$173.13	\$146.86	\$178.36	\$151.30	\$183.75
Senior Engineer	15+	64.00	\$180.73	\$219.50	\$186.19	\$226.13	\$191.82	\$232.97
Senior Structural Engineer	20+	72.00	\$203.32	\$246.94	\$209.47	\$254.40	\$215.80	\$262.09
Senior Geo-Structural Engineer	20+	70.00	\$197.67	\$240.08	\$203.65	\$247.33	\$209.80	\$254.81
Senior Geotechnical Engineer	20+	70.00	\$197.67	\$240.08	\$203.65	\$247.33	\$209.80	\$254.81
Engineer-In-Training	1 to 5	26.44	\$ 74.66	\$ 90.68	\$ 76.92	\$ 93.42	\$ 79.25	\$ 96.25
Designer II	20+	43.27	\$122.19	\$148.40	\$125.88	\$152.89	\$129.69	\$157.51
Designer I	10+	28.85	\$ 81.47	\$ 98.95	\$ 83.93	\$101.94	\$ 86.47	\$105.02
Senior Graphics Specialist	20+	40.87	\$115.41	\$140.17	\$118.90	\$144.41	\$122.50	\$148.77
Senior CADD Operator	15+	32.00	\$ 90.37	\$109.75	\$ 93.10	\$113.07	\$ 95.91	\$116.48
CADD Operator	5 to 15	24.04	\$ 67.89	\$ 82.45	\$ 69.94	\$ 84.94	\$ 72.05	\$ 87.51
RPLS	15+	42.00	\$118.60	\$144.05	\$122.19	\$148.40	\$125.88	\$152.89
Survey Tech	5 to 10	26.00	\$ 73.42	\$ 89.17	\$ 75.64	\$ 91.87	\$ 77.93	\$ 94.64
GIS Analyst	5 to 15	21.63	\$ 61.08	\$ 74.18	\$ 62.93	\$ 76.43	\$ 64.83	\$ 78.74
Survey Party Chief	10+	26.00	\$ 73.42	\$ 89.17	\$ 75.64	\$ 91.87	\$ 77.93	\$ 94.64
Survey Field Personnel	0 to 5	16.50	\$ 46.59	\$ 56.59	\$ 48.00	\$ 58.30	\$ 49.45	\$ 60.06
Senior Structural Inspector	20+	50.00	\$141.20	\$171.48	\$145.46	\$176.67	\$149.86	\$182.01
Senior Geotechnical Inspector	20+	50.00	\$141.20	\$171.48	\$145.46	\$176.67	\$149.86	\$182.01
Senior Utility Coordinator	15+	35.00	\$ 98.84	\$120.04	\$101.82	\$123.67	\$104.90	\$127.41
Utility Coordinator	5 to 10	28.85	\$ 81.47	\$ 98.95	\$ 83.93	\$101.94	\$ 86.47	\$105.02
Public Involvement Specialist	5 to 15	40.87	\$115.41	\$140.17	\$118.90	\$144.41	\$122.50	\$148.77
Environmental Scientist IV	20+	48.08	\$135.77	\$164.90	\$139.88	\$169.88	\$144.11	\$175.02
Environmental Scientist III	15 to 20	36.06	\$101.83	\$123.67	\$104.91	\$127.41	\$108.08	\$131.26
Environmental Scientist II	10 to 15	28.85	\$ 81.47	\$ 98.95	\$ 83.93	\$101.94	\$ 86.47	\$105.02
Environmental Scientist I	5 to 10	21.63	\$ 61.08	\$ 74.18	\$ 62.93	\$ 76.43	\$ 64.83	\$ 78.74
Environmental Inspector	0 to 5	18.00	\$ 50.83	\$ 61.73	\$ 52.37	\$ 63.60	\$ 53.95	\$ 65.52
Contract Administrator	15+	36.00	\$101.66	\$123.47	\$104.73	\$127.20	\$107.90	\$131.05
Project Analyst	1 to 5	31.00	\$ 87.54	\$106.32	\$ 90.19	\$109.53	\$ 92.91	\$112.84
Document Control Specialist	1 to 5	32.00	\$ 90.37	\$109.75	\$ 93.10	\$113.07	\$ 95.91	\$116.48
Admin/Clerical II	10+	22.00	\$ 62.13	\$ 75.45	\$ 64.00	\$ 77.73	\$ 65.94	\$ 80.08
Admin/Clerical I	5 to 10	19.00	\$ 53.65	\$ 65.16	\$ 55.28	\$ 67.13	\$ 56.95	\$ 69.16
Project Controls Manager	20+	44.00	\$124.25	\$150.91	\$128.01	\$155.47	\$131.88	\$160.17
Senior Inspector	20+	31.25	\$ 88.25	\$107.18	\$ 90.91	\$110.42	\$ 93.66	\$113.75
Inspector	10+	25.00	\$ 70.60	\$ 85.74	\$ 72.73	\$ 88.33	\$ 74.93	\$ 91.00
Junior Inspector	5+	20.00	\$ 56.48	\$ 68.59	\$ 58.19	\$ 70.67	\$ 59.94	\$ 72.80
Office Overhead Rate:		211.79%						
Field Overhead Rate:		156.72%						
Profit Rate:		10.00%						

**ATTACHMENT E - FEE SCHEDULE
SPECIFIED RATE AND LUMP SUM PAYMENT BASIS**

SUBPROVIDER NAME: White Hawk Engineering & Design, LLC

Labor/Staff Classification	Years of Experience	Hourly Base Rate	Direct Labor					
			Contract Rate 2015		Contract Rate 2017		Contract Rate 2019	
			Field	Office	Field	Office	Field	Office

Contract Rates include labor, overhead, and profit.

All rates are negotiated rates and are not subject to change or adjustment.

For Specified Rate Payment Basis - Contract rates to be billed. Documentation of hours must be maintained and is subject to audit.

For Lump Sum Payment Basis - Invoice by deliverable, according to the table of deliverables. Documentation of hours worked not required.

Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.

**ATTACHMENT E - FEE SCHEDULE
COST PLUS FIXED FEE PAYMENT BASIS**

PRIME PROVIDER NAME: Brown & Gay Engineers, Inc.

Direct Labor					
Labor/Staff Classification	Years of Experience	Hourly Rates			
		Minimum	2015 Maximum	2017 Maximum	2019 Maximum
Senior Advisor	25+	\$0.00	89.00	\$91.69	\$94.46
Project Manager	25+	\$0.00	91.00	\$93.75	\$96.58
Deputy Project Manager	20+	\$0.00	76.00	\$78.30	\$80.66
Senior Contract and Claims Manager	20+	\$0.00	76.00	\$78.30	\$80.66
Quality Manager	15+	\$0.00	66.00	\$67.99	\$70.05
Senior Engineer	20+	\$0.00	70.00	\$72.12	\$74.30
Project Engineer	10 to 15	\$0.00	61.00	\$62.84	\$64.74
Design Engineer	5 to 10	\$0.00	49.50	\$51.00	\$52.54
Engineer IV	15 to 20	\$0.00	63.00	\$64.90	\$66.87
Engineer-In-Training	1 to 5	\$0.00	33.00	\$34.00	\$35.02
ROW Coordinator	10+	\$0.00	41.00	\$42.24	\$43.52
Senior Engineer Tech	15+	\$0.00	37.00	\$38.12	\$39.27
Engineer Tech	5 to 15	\$0.00	31.00	\$31.94	\$32.90
Junior Engineer Tech	1 to 5	\$0.00	25.00	\$25.76	\$26.53
Senior Environmental Manager	20+	\$0.00	66.00	\$67.99	\$70.05
Senior Environmental/Planner	15+	\$0.00	56.00	\$57.69	\$59.44
Environmental/Planner IV	10 to 15	\$0.00	46.00	\$47.39	\$48.82
Environmental Planner	5 to 10	\$0.00	36.00	\$37.09	\$38.21
Graphic Designer	5+	\$0.00	31.00	\$31.94	\$32.90
Senior Public Involvement Specialist	15+	\$0.00	51.00	\$52.54	\$54.13
Public Involvement Specialist	5 to 15	\$0.00	36.00	\$37.09	\$38.21
Project Controls Manager	15+	\$0.00	49.00	\$50.48	\$52.01
Senior Project Controls	10+	\$0.00	39.00	\$40.18	\$41.39
Senior Document Controls Specialist	5 to 10	\$0.00	44.00	\$45.33	\$46.70
Document Controls Specialist	1 to 5	\$0.00	29.00	\$29.88	\$30.78
Senior Scheduler	15+	\$0.00	66.00	\$67.99	\$70.05
Scheduler IV	10 to 15	\$0.00	51.00	\$52.54	\$54.13
Senior Project Analyst	5 to 15	\$0.00	32.00	\$32.97	\$33.96
Project Analyst	1 to 5	\$0.00	27.00	\$27.82	\$28.66
Senior Network Engineer	15+	\$0.00	35.00	\$36.06	\$37.15
Network Engineer	5 to 15	\$0.00	30.00	\$30.91	\$31.84
Admin/Clerical II	10+	\$0.00	26.00	\$26.79	\$27.60
Admin/Clerical I	5 to 10	\$0.00	21.00	\$21.63	\$22.29
Senior GIS Analyst	15+	\$0.00	36.00	\$37.09	\$38.21
GIS Analyst	5 to 15	\$0.00	29.00	\$29.88	\$30.78
3-D Visualization Manager	15+	\$0.00	36.00	\$37.09	\$38.21
3-D Visualization Specialist	5 to 15	\$0.00	30.00	\$0.00	\$0.00
Senior Tolls Specialist	20+	\$0.00	71.00	\$0.00	\$0.00
Toll Specialist II	15+	\$0.00	55.00	\$0.00	\$0.00
Senior Utility Coordinator	15+	\$0.00	41.00	\$0.00	\$0.00
Utility Coordinator	5 to 10	\$0.00	34.00	\$0.00	\$0.00
SUE Field Manager	15+	\$0.00	33.00	\$0.00	\$0.00
Senior Resident Engineer	15+	\$0.00	64.00	\$0.00	\$0.00
Resident Engineer	5 to 15	\$0.00	56.00	\$0.00	\$0.00
Senior Field Rep	15+	\$0.00	39.00	\$40.18	\$41.39
Field Rep	5 to 15	\$0.00	32.00	\$32.97	\$33.96
Environmental Inspector	1 to 5	\$0.00	31.00	\$31.94	\$32.90
ROW Coordinator	10 to 15	\$0.00	46.00	\$47.39	\$48.82
Senior RPLS	20+	\$0.00	56.00	\$57.69	\$59.44

**ATTACHMENT E - FEE SCHEDULE
COST PLUS FIXED FEE PAYMENT BASIS**

PRIME PROVIDER NAME: Brown & Gay Engineers, Inc.

Direct Labor					
Labor/Staff Classification	Years of Experience	Hourly Rates			
		Minimum	2015 Maximum	2017 Maximum	2019 Maximum
RPLS	5 to 15	\$0.00	47.00	\$48.42	\$49.88
Mobility Coordinator	10+	\$0.00	46.00	\$47.39	\$48.82
Contract Administrator	15+	\$0.00	39.00	\$40.18	\$41.39
INDIRECT COST RATE (OFFICE)		153.07%			
INDIRECT COST RATE (FIELD)		134.46%			
PROFIT RATE		10.00%			

Actual rates to be billed not to exceed the maximum shown.

Minimum rate to be billed if actual is less. Documentation of hours worked is necessary for reimbursement.

Cost Plus Fixed Fee Payment Basis: Rates, within the ranges indicated, will be agreed upon for use in calculating the maximum amount not to exceed.

Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.

ATTACHMENT E - FEE SCHEDULE
COST PLUS FIXED FEE PAYMENT BASIS

SUBPROVIDER NAME: CDM Smith, Inc.

Direct Labor					
Labor/Staff Classification	Years of Experience	HOURLY RATE			
		Minimum	2015 Maximum	2017 Maximum	2019 Maximum
Senior Advisor	20+	0.00	104.00	\$107.14	\$110.38
Quality Manager	15+	0.00	73.00	\$75.21	\$77.48
Senior Engineer	20+	0.00	104.00	\$107.14	\$110.38
Engineer IV	15 to 20	0.00	68.00	\$70.06	\$72.17
Engineer III	10 to 15	0.00	61.00	\$62.84	\$64.74
Engineer II	5 to 10	0.00	41.00	\$42.24	\$43.52
Engineer-In-Training	1 to 5	0.00	31.00	\$31.94	\$32.90
Senior Engineer Tech	15+	0.00	34.00	\$35.03	\$36.09
Engineer Tech	5 to 15	0.00	28.00	\$28.85	\$29.72
Junior Engineer Tech	0 to 5	0.00	25.00	\$25.76	\$26.53
Transportation Analyst II	5+	0.00	33.00	\$34.00	\$35.02
Transportation Analyst I	0 to 5	0.00	28.00	\$28.85	\$29.72
Senior CADD Operator	15+	0.00	39.00	\$40.18	\$41.39
CADD Operator	5 to 15	0.00	34.00	\$35.03	\$36.09
Sr Travel Demand Modeler/Planner	20+	0.00	71.00	\$73.15	\$75.36
Travel Demand Modeler III	15-20	0.00	67.00	\$69.03	\$71.11
Travel Demand Modeler II	5 to 15	0.00	44.00	\$45.33	\$46.70
Travel Demand Modeler I	0-5	0.00	28.00	\$28.85	\$29.72
Economist III	15+	0.00	53.00	\$54.60	\$56.25
Economist II	5-15	0.00	44.00	\$45.33	\$46.70
Economist I	0-5	0.00	29.00	\$29.88	\$30.78
Senior Planner	15+	0.00	71.00	\$73.15	\$75.36
Planner II	5 to 15	0.00	45.00	\$46.36	\$47.76
Planner I	0 to 5	0.00	27.00	\$27.82	\$28.66
Senior Project Analyst	10+	0.00	36.00	\$37.09	\$38.21
Admin/Clerical I	5 to 10	0.00	26.00	\$26.79	\$27.60
Project Administrator	10+	0.00	36.00	\$37.09	\$38.21
Senior Tolls Advisor	15+	0.00	96.00	\$98.90	\$101.89
Tolls Advisor	5 to 15	0.00	67.00	\$69.03	\$71.11
GIS Analyst	5 to 15	0.00	37.00	\$38.12	\$39.27
GIS Specialist	0 to 5	0.00	29.00	\$29.88	\$30.78
INDIRECT COST RATE (OFFICE)		175.64%			
INDIRECT COST RATE (FIELD)		114.81%			
PROFIT RATE		10.00%			

Actual rates to be billed not to exceed the maximum shown.

Minimum rate to be billed if actual is less. Documentation of hours worked is necessary for reimbursement.

Cost Plus Fixed Fee Payment Basis: Rates, within the ranges indicated, will be agreed upon for use in calculating the maximum amount not to exceed.

Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.

**ATTACHMENT E - FEE SCHEDULE
COST PLUS FIXED FEE PAYMENT BASIS**

SUBPROVIDER NAME: Civil Associates, Inc.

Direct Labor					
Labor/Staff Classification	Years of Experience	HOURLY RATE			
		Minimum	2015 Maximum	2017 Maximum	2019 Maximum
Senior Engineer	20+	\$0.00	73.00	\$75.21	\$77.48
Engineer IV	15 to 20	\$0.00	68.00	\$70.06	\$72.17
Engineer III	10 to 15	\$0.00	51.00	\$52.54	\$54.13
Engineer II	5 to 10	\$0.00	44.00	\$45.33	\$46.70
Engineer-In-Training	1 to 5	\$0.00	34.00	\$35.03	\$36.09
Senior CADD Operator	15+	\$0.00	39.00	\$40.18	\$41.39
CADD Operator	5 to 15	\$0.00	29.00	\$29.88	\$30.78
Admin/Clerical I	5 to 10	\$0.00	22.00	\$22.66	\$23.35
Senior Planner	15+	\$0.00	61.00	\$62.84	\$64.74
Planner IV	10 to 15	\$0.00	45.50	\$46.88	\$48.29
Planner III	5 to 10	\$0.00	36.00	\$37.09	\$38.21
Planner I/II	1 to 5	\$0.00	30.00	\$30.91	\$31.84
Senior Engr Tech	15+	\$0.00	40.00	\$41.21	\$42.45
Engineer Tech	5 to 15	\$0.00	32.00	\$32.97	\$33.96
Project Controller	10+	\$0.00	31.00	\$31.94	\$32.90
INDIRECT COST RATE (OFFICE)		163.42%			
INDIRECT COST RATE (FIELD)		120.93%			
PROFIT RATE		10.00%			

Actual rates to be billed not to exceed the maximum shown.

Minimum rate to be billed if actual is less. Documentation of hours worked is necessary for reimbursement.

Cost Plus Fixed Fee Payment Basis: Rates, within the ranges indicated, will be agreed upon for use in calculating the maximum amount not to exceed.

Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work work authorization, is not eligible for payment under that work authorization.

**ATTACHMENT E - FEE SCHEDULE
COST PLUS FIXED FEE PAYMENT BASIS**

SUBPROVIDER NAME: MAS-TEK Engineering & Associates, Inc.

Direct Labor					
Labor/Staff Classification	Years of Experience	HOURLY RATE			
		Minimum	2015 Maximum	2017 Maximum	2019 Maximum
Senior Engineer	20+	\$0.00	61.00	\$62.84	\$64.74
Engineer IV	15 to 20	\$0.00	51.00	\$52.54	\$54.13
Engineer III	10 to 15	\$0.00	45.00	\$46.36	\$47.76
Engineer II	5 to 10	\$0.00	37.00	\$38.12	\$39.27
Senior Engineer Tech	15+	\$0.00	29.00	\$29.88	\$30.78
Engineer Tech	5 to 15	\$0.00	25.00	\$25.76	\$26.53
Admin/Clerical I	5 to 10	\$0.00	21.00	\$21.63	\$22.29
Senior CADD Technician	15+	\$0.00	31.00	\$31.94	\$32.90
CADD Technician II	5 to 15	\$0.00	25.00	\$25.76	\$26.53
Senior Environmental / Planner	15+	\$0.00	51.00	\$52.54	\$54.13
Environmental / Planner III	10 to 15	\$0.00	43.00	\$44.30	\$45.64
Environmental / Planner II	5 to 10	\$0.00	35.00	\$36.06	\$37.15
Senior Inspector	20+	\$0.00	36.00	\$37.09	\$38.21
Inspector	10+	\$0.00	26.00	\$26.79	\$27.60
Scheduler III	20+	\$0.00	51.00	\$52.54	\$54.13
Scheduler II	15+	\$0.00	45.00	\$46.36	\$47.76
Senior Estimator	20+	\$0.00	51.00	\$52.54	\$54.13
Estimator	10+	\$0.00	41.00	\$42.24	\$43.52
Junior Inspector	5+	\$0.00	26.00	\$26.79	\$27.60
Admin/Clerical II	10+	\$0.00	28.00	\$28.85	\$29.72
Senior Utility Coordinator	15+	\$0.00	45.00	\$46.36	\$47.76
Utility Coordinator	5 to 10	\$0.00	34.00	\$35.03	\$36.09
Project Controls Manager	15+	\$0.00	49.00	\$50.48	\$52.01
Senior Project Controls	10+	\$0.00	39.00	\$40.18	\$41.39
Senior Document Controls Specialist	5 to 10	\$0.00	49.00	\$50.48	\$52.01
Document Controls Specialist	1 to 5	\$0.00	29.00	\$29.88	\$30.78
INDIRECT COST RATE (OFFICE)		110.00%			
INDIRECT COST RATE (FIELD)		90.00%			
PROFIT RATE		10.00%			

Actual rates to be billed not to exceed the maximum shown.

Minimum rate to be billed if actual is less. Documentation of hours worked is necessary for reimbursement.

Cost Plus Fixed Fee Payment Basis: Rates, within the ranges indicated, will be agreed upon for use in calculating the maximum amount not to exceed.

Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.

ATTACHMENT E - FEE SCHEDULE
COST PLUS FIXED FEE PAYMENT BASIS

SUBPROVIDER NAME: White Hawk Engineering & Design, LLC

Direct Labor					
Labor/Staff Classification	Years of Experience	HOURLY RATE			
		Minimum	2015 Maximum	2017 Maximum	2019 Maximum
Engineer I	1 to 5	\$0.00	32.00	\$32.97	\$33.96
Design Engineer	5 to 10	\$0.00	41.00	\$42.24	\$43.52
Project Engineer	10 to 15	\$0.00	51.48	\$53.04	\$54.64
Senior Engineer	15+	\$0.00	65.00	\$66.96	\$68.99
Senior Structural Engineer	20+	\$0.00	73.00	\$75.21	\$77.48
Senior Geo-Structural Engineer	20+	\$0.00	71.00	\$73.15	\$75.36
Senior Geotechnical Engineer	20+	\$0.00	71.00	\$73.15	\$75.36
Engineer-In-Training	1 to 5	\$0.00	27.44	\$28.27	\$29.12
Designer II	20+	\$0.00	44.27	\$45.61	\$46.99
Designer I	10+	\$0.00	29.85	\$30.75	\$31.68
Senior Graphics Specialist	20+	\$0.00	41.87	\$43.14	\$44.44
Senior CADD Operator	15+	\$0.00	33.00	\$34.00	\$35.02
CADD Operator	5 to 15	\$0.00	25.04	\$25.80	\$26.58
RPLS	15+	\$0.00	43.00	\$44.30	\$45.64
Survey Tech	5 to 10	\$0.00	27.00	\$27.82	\$28.66
GIS Analyst	5 to 15	\$0.00	22.63	\$23.31	\$24.02
Survey Party Chief	10+	\$0.00	27.00	\$27.82	\$28.66
Survey Field Personnel	0 to 5	\$0.00	17.50	\$18.03	\$18.57
Senior Structural Inspector	20+	\$0.00	51.00	\$52.54	\$54.13
Senior Geotechnical Inspector	20+	\$0.00	51.00	\$52.54	\$54.13
Senior Utility Coordinator	15+	\$0.00	36.00	\$37.09	\$38.21
Utility Coordinator	5 to 10	\$0.00	29.85	\$30.75	\$31.68
Public Involvement Specialist	5 to 15	\$0.00	41.87	\$43.14	\$44.44
Environmental Scientist IV	20+	\$0.00	49.08	\$50.56	\$52.09
Environmental Scientist III	15 to 20	\$0.00	37.06	\$38.18	\$39.33
Environmental Scientist II	10 to 15	\$0.00	29.85	\$30.75	\$31.68
Environmental Scientist I	5 to 10	\$0.00	22.63	\$23.31	\$24.02
Environmental Inspector	0 to 5	\$0.00	19.00	\$19.57	\$20.17
Contract Administrator	15+	\$0.00	37.00	\$38.12	\$39.27
Project Analyst	1 to 5	\$0.00	32.00	\$32.97	\$33.96
Document Control Specialist	1 to 5	\$0.00	33.00	\$34.00	\$35.02
Admin/Clerical II	10+	\$0.00	23.00	\$23.70	\$24.41
Admin/Clerical I	5 to 10	\$0.00	20.00	\$20.60	\$21.23
Project Controls Manager	20+	\$0.00	45.00	\$46.36	\$47.76
Senior Inspector	20+	\$0.00	32.25	\$33.22	\$34.23
Inspector	10+	\$0.00	26.00	\$26.79	\$27.60
Junior Inspector	5+	\$0.00	21.00	\$21.63	\$22.29
INDIRECT COST RATE (OFFICE)		211.79%			
INDIRECT COST RATE (FIELD)		156.72%			
PROFIT RATE		10.00%			

Actual rates to be billed not to exceed the maximum shown.

Minimum rate to be billed if actual is less. Documentation of hours worked is necessary for reimbursement.

Cost Plus Fixed Fee Payment Basis: Rates, within the ranges indicated, will be agreed upon for use in calculating the maximum amount not to exceed.

Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.

ATTACHMENT E - FEE SCHEDULE
OTHER DIRECT EXPENSES
RATES SHOWN APPLY TO PRIME PROVIDER(S) AND ALL SUBPROVIDERS

SERVICES TO BE PROVIDED	Unit	Fixed/Max	Fixed	Maximum Cost
Full Time Staff (40 hr wk) on Project Site Up to 12 months from NTP Housing/Meals/Rental Car/Gas/Mileage Stipend (prorated by day if whole month not needed) This line item only applies to BGE	month/person	Fixed	\$1,200.00	
Lodging/Hotel (Taxes/fees not included)	day/person	Max		Current State Rate
Lodging/Hotel - Taxes and Fees	day/person	Max		\$50.00
Meals (Excluding alcohol & tips) (Overnight stay required)	day/person	Max		Current State Rate
Mileage	mile	Fixed	Current State Rate	
Rental Car (Includes taxes and fees; Insurance costs will not be reimbursed)	day	Max		\$70.00
SUV or ATV Rental (Includes taxes and fees; Insurance costs will not be reimbursed)	day	Max		\$125.00
Construction Truck (Includes operation, and maintenance costs; Insurance costs will not be reimbursed)	month	Max		\$1,300.00
Construction Truck 4X4 (Includes operation and maintenance costs; Insurance costs will not be reimbursed)	month	Max		\$1,600.00
Rental Car Fuel	gallon	Max		\$5.00
Air Travel (Use with Indefinite Deliverable Contracts)	Rd Trip/person	Max		Coach
Air Travel - In State - Short Notice (Coach)	Rd Trip/person	Max		\$700.00
Air Travel - In State - 2+ Wks Notice (Coach)	Rd Trip/person	Max		\$600.00
Air Travel - Out of State - Short Notice (Coach)	Rd Trip/person	Max		\$1,000.00
Air Travel - Out of State - 2+ Wks Notice (Coach)	Rd Trip/person	Max		\$800.00
Oversize, special handling or extra baggage airline fees (with advance coordination with TxDOT)	each	Max		\$130.00
Taxi/Cab fare	each/person	Max		\$40.00
Parking	day	Max		\$25.00
Toll Charges	each	Max		\$3.00
Standard Postage	letter	Fixed	Current Postal	
Certified Letter Return Receipt	each	Fixed	Current Postal	
Overnight Mail - letter size	each	Fixed	Current Postal	
Overnight Mail - oversized box	each	Max		\$100.00
Overnight Mail - large schematic rolls	each	Max		\$75.00
Materials and Shipping	Per Package	Max		\$35.00
Courier Services	each	Max		\$50.00
Photocopies B/W (8 1/2" X 11")	each	Max		\$0.10
Photocopies B/W (11" X 17")	each	Max		\$0.20
Photocopies Color (8 1/2" X 11")	each	Max		\$0.75
Photocopies Color (11" X 17")	each	Max		\$1.00
Cardstock Color (8 1/2" X 11")	each	Max		\$1.00
Digital Ortho Plotting	sheet	Max		\$1.50
BlueLine Prints (24" X 36")	each	Max		\$3.00
Bond Paper Plot (BlueLine/Blackline)	linear foot	Max		\$5.00
BlueLine/Blackline Prints (22" X 34")	sheet	Max		\$3.00
Plots (B/W on Bond)	square foot	Max		\$3.00
Plots (Color on Bond)	square foot	Max		\$6.00
Plots (Color on Photographic Paper)	square foot	Max		\$6.00
Color Graphics on Foam Board	square foot	Max		\$20.00
Vellum Plot	linear foot	Max		\$15.00
Mylar Plot	square foot	Max		\$15.00
Mylars (Half Size)	each	Max		\$5.00
Mylars (Full Size)	each	Max		\$10.00
Mylar (8 1/2" X 11")	sheet	Max		\$4.00
Mylar (11" X 17")	sheet	Max		\$5.00
Mylar (22" X 34")	sheet	Max		\$15.00

ATTACHMENT E - FEE SCHEDULE
OTHER DIRECT EXPENSES
RATES SHOWN APPLY TO PRIME PROVIDER(S) AND ALL SUBPROVIDERS

SERVICES TO BE PROVIDED	Unit	Fixed/Max	Fixed	Maximum Cost
Outside Printing - Reports	each	Max		\$100.00
Report Binding and Tabbing	each	Max		\$25.00
Notebooks	each	Max		\$5.00
Reproduction of CD/DVD	each	Max		\$5.00
CDs/DVDs	each	Max		\$1.00
Film - 24 Exp Roll	roll	Max		\$6.00
Film Processing - 24 Exp Roll	roll	Max		\$10.00
4" X 6" Digital Color Print	picture	Max		\$0.50
Tx Parks & Wildlife Data Request Fees	each	Max		\$500.00
Hazardous Materials Database Search	per search	Max		\$1,000.00
TARL Site Recording	site	Max		\$100.00
Newspaper Advertisement	per publication	Max		\$10,000.00
Court Reporter	page	Max		\$10.00
Court Reporter (Public Meetings, Hearings & Transcription)	day	Max		\$650.00
Translator (English to Spanish, other language as appropriate, or Sign Language) for Public Involvement	event	Max		\$600.00
Translator (English to Spanish, other language as appropriate, or Sign Language)	hour	Max		\$200.00
Custodian for Public Involvement	hour/custodian	Max		\$50.00
Sound Technican for Public Involvement	event	Max		\$1,000.00
Public Involvement Facility Rental	Hour	Max		\$1,000.00
Professional Narrator for Public Involvement	event	Max		\$250.00
Audio - Visual Equipment Rental	event	Max		\$1,500.00
Audio - Equipment Rental	each	Max		\$1,000.00
Public Notices - Mass Mailing/per notice	each	Max		\$500.00
Post Office Box (Project)	each/6 month	Max		\$300.00
Portable Electronic Message Board	day	Max		\$400.00
Brochure Printing	each	Max		\$2.00
Flyer Printing (various sizes BW or color)	each	Max		\$3.00
Postcard Printing	each	Max		\$3.00
Billboard Printing	each	Max		\$800.00
Event Banner Printing	each	Max		\$200.00
Radio Ad Production	each	Max		\$6,000.00
TV Ad Production	each	Max		\$80,000.00
Fulfillment/Shipping/Freight/Postage per package	each	Max		\$80.00
Fulfillment/Shipping/Freight/Postage per pallet/skid	each	Max		\$300.00
Event Commemorative Items	each	Max		\$100.00
800 Phone Number	month	Max		\$75.00
Newspaper Clipping Services	month	Max		\$300.00
Meeting Signage	unit	Max		\$60.00
Royalty Free Images (fee for ability to use copyright logos or images)	each	Max		\$30.00
Office Furniture				
Project Office Modifications and non-warranty repairs	each	Max		\$3,000.00
Project Office Maintenance (janitorial, pest, etc....)	month/each	Max		\$1,000.00
Office Furniture (chairs, tables, etc.)	item	Max		\$1,500.00
Office Furniture (Lease) (chairs, tables, cubes, etc.)	month	Max		\$5,000.00
File Cabinets	each	Max		\$400.00
Office Furnishings (trash cans, cabinets, mail carts, etc) (Lease)	All office/Month	Max		\$4,000.00
Office Equipment				
Copier	Month/Each	Max		\$2,000.00
Fax Machine	Month/Each	Max		\$500.00
Printer	Month/Each	Max		\$1,500.00
Plotter	Month/Each	Max		\$2,000.00
Scanner	Month/Each	Max		\$500.00

ATTACHMENT E - FEE SCHEDULE
OTHER DIRECT EXPENSES
RATES SHOWN APPLY TO PRIME PROVIDER(S) AND ALL SUBPROVIDERS

SERVICES TO BE PROVIDED	Unit	Fixed/Max	Fixed	Maximum Cost
Projector	each	Max		\$1,500.00
Supplies/Paper	Month	Max		\$2,000.00
First Aid Cabinet (Stocked)	each	Max		\$200.00
Project Office Supplies	Month	Max		\$1,000.00
Information Technology (hardware, software, etc.)				
Network Connection Equipment	month	Max		\$4,200.00
Wiring, Racks, and Panels	Month/Each	Max		\$1,200.00
Server & Equipment (Lease)	Month/Each	Max		\$1,200.00
Notebook Computers (Lease)	Month/Each	Max		\$325.00
Desktop Computers (Lease)	Month/Each	Max		\$300.00
Monitors for Computers (Lease)	Month/Each	Max		\$200.00
Website hosting	each	Max		\$300.00
Software License	license/year	Max		\$1,100.00
Website Registration	each	Max		\$125.00
Rackspace hosting for Sharepoint/GIS Enterprise	Month/Each	Max		\$6,000.00
Communication Equipment & Services (internet, phone)				
Telephone System Equipment	per phone	Max		\$225.00
Dedicated Communications Line Lease	month	Max		\$900.00
Long Distance Phone, Internet, and Voice Mail System Lease	month	Max		\$1,300.00
Business & Fax Lines	month	Max		\$250.00
Office Security System	month	Max		\$10,000.00
Security System (Installation)	each	Max		\$16,000.00
Monthly Monitoring (entire floor)	month	Max		\$70.00
Fire Safes (4 drawer)	each	Max		\$110.00
Office Confidentiality				
Shredding Services	pound	Max		\$1.00
Automated counts - price per counter				
Automated Volume Counts - 24 hours	day	Max		\$375.00
Automated Volume Counts - Additional 24 hours at same location	day	Max		\$75.00
Automated Speed or Classification Counts - 24 hours	day	Max		\$325.00
Automated Speed or Classification Counts - Additional 24 hours at same location	day	Max		\$80.00
Mainlanes Within Metropolitan Areas				
Automated Volume Counts - 24 hours	day	Max		\$700.00
Automated Volume Counts - Additional 24 hours at same location	day	Max		\$175.00
Automated Speed or Classification Counts - 24 hours	day	Max		\$1,000.00
Automated Speed or Classification Counts - Additional 24 hours at same location	day	Max		\$200.00
Mainlanes Outside Metropolitan Areas				
Automated Volume Counts - 24 hours	day	Max		\$600.00
Automated Volume Counts - Additional 24 hours at same location	day	Max		\$90.00
Automated Speed or Classification Counts - 24 hours	day	Max		\$675.00
Automated Speed or Classification Counts - Additional 24 hours at same location	day	Max		\$90.00
Turning Movement Counts - 1 Person Intersection	day	Max		\$500.00
Turning Movement Counts - 2 Person Intersection	day	Max		\$1,000.00
Other Field Data Collection - 1 person (Radar, Manual Studies, Travel Time Runs)	day	Max		\$500.00
Other Field Data Collection - 2 person (Radar, Manual Studies, Travel Time Runs)	day	Max		\$1,000.00
Origin and Destination Surveys				
License Plate Capture - per lane	day	Max		\$4,800.00
License Plate Processing - per 10,000 ADT	10,000 ADT	Max		\$1,250.00
Postcard Field Distribution Survey - 8 emps	12 hr (or daylight)	Max		\$2,500.00

ATTACHMENT E - FEE SCHEDULE
OTHER DIRECT EXPENSES
RATES SHOWN APPLY TO PRIME PROVIDER(S) AND ALL SUBPROVIDERS

SERVICES TO BE PROVIDED	Unit	Fixed/Max	Fixed	Maximum Cost
Postcard Field Distribution Survey - 12 emps	12 hr (or daylight)	Max		\$4,000.00
Postcard Survey Data Processing - per 1,000 Postcards Returned	1000 Postcards	Max		\$2,000.00
Field Survey (short form less than 8 questions) 8 emps	12 hr (or daylight)	Max		\$5,500.00
Field Survey (long form less than 8 questions) 8 emps	12 hr (or daylight)	Max		\$5,200.00
Field Survey (short form less than 8 questions) 12 emps	12 hr (or daylight)	Max		\$7,500.00
Field Survey (long form less than 8 questions) 12 emps	12 hr (or daylight)	Max		\$8,500.00
Traffic Control Plan Set Up (at cost based on varying types)	location	Max		\$5,000.00
Equipment Lease/Rentals: Video License Plate Capture Equipment, Traffic Counters, Field Survey Equipment: Traffic Control Equipment, Traffic Control Signage	per unit/day	Max		\$850.00
Law Enforcement	hourly/per officer	Max		\$175.00
Planning/Environmental				
Historical Aerial Images (Photographs, Negatives, Maps)	each	Max		\$500.00
Aerial Photographs (1" = 500' scale)	each	Max		\$500.00
FEMA FIS Backup Data Request	each	Max		\$400.00
FEMA Maps	each	Max		\$10.00
Backhoe Rental	day	Max		\$1,200.00
Radio Carbon Dating	per sample	Max		\$600.00
Environmental Field Supplies (lathes, stakes, flagging, spray paint, etc.)	day	Max		\$150.00
Curator (Drawer & TX Archaeological Research Lab for artifacts & report	per drawer	Max		\$1,000.00
Noise Meter	day	Max		\$50.00
Databases - Census	each	Max		\$500.00
Databases - Socioeconomic and Other	each	Max		\$500.00
GIS Data	each	Max		\$125.00
Survey				
Robotic Total Station	day	Max		\$500.00
Boat with Motor	day	Max		\$125.00
ATV Rental (Includes taxes and fees; Insurance costs will not be reimbursed)	Day	Max		\$150.00
Survey Field Supplies (lathes, stakes, flagging, spray paint, etc.)	day	Max		\$150.00
Fathometer	day	Max		\$100.00
GPS Receiver	hour	Max		\$25.00
GPS RTK	hour	Max		\$60.00
GPS Static	hour	Max		\$60.00
Certified Deed Copies	sheet	Max		\$3.00
Deed Copies	sheet	Max		\$1.00
Railroad Flagger (Service provided by RR)	hour	Max		\$60.00
Railroad - Flagger (Service provided by RR)	Day	Max		\$600.00
Railroad - Insurance (Minimum coverage of \$1 Million required by RR.)	Each	Max		\$2,500.00
Railroad - Permit	Each	Max		\$500.00
Railroad - Safety Training (If required - Heavy Rail Safety Training Certificate, includes classroom training and employee certification card.)	Per Person	Max		\$150.00
Property Record Fees (Courthouse and Courthouse Direct Record Fees)	Per Parcel	Max		\$100.00
Traffic Control Services, Arrow Boards and Attenuator trucks - (Includes labor, equipment and fuel)	Day	Max		\$3,000.00
Type II ROW Monument - Excavated/Drilled, rocks, rocky soil. 2-4 inch depth (Includes crew time, equipment, materials, rentals, & labor.) Brass Marker supplied by TxDOT.	Each	Fixed	\$45.00	
Type II ROW Monument - Poured 2-3 Feet (Includes One Call, crew time, equipment, materials, rentals, labor.) Brass Marker supplied by TxDOT.	Each	Fixed	\$180.00	

ATTACHMENT E - FEE SCHEDULE
OTHER DIRECT EXPENSES
RATES SHOWN APPLY TO PRIME PROVIDER(S) AND ALL SUBPROVIDERS

SERVICES TO BE PROVIDED	Unit	Fixed/Max	Fixed	Maximum Cost
Ground Target (includes paint, panel material, etc.)	Each	Max		\$20.00
Survey Boundary Taxes (If this line item is billed, a Tax Resale Certificate must be kept on file, and be available upon request by the state.)	Each	Max		\$8,000.00
Survey Boat with enclosed cabin (20-25 ft)	day	Max		\$800.00
Subsurface Utility Engineering (SUE)				
Ground Penetrating Radar (equipment only)	day	Max		\$1,800.00
Municipal Excavation and/or Designating Permits	each	Max		\$500.00
Utility System Records (as-built) documents	sheet	Max		\$2.00
Geophysical locating equipment	hour	Max		\$10.00
SUE Mobilization/Demobilization (include mobilizing/demobilizing personnel and equipment portal to portal)	each	Fixed	\$800.00	
Vacuum excavation	mile	Fixed	\$4.75	
Mobile Equipment LiDAR				
LiDAR Mobile Mapping System, (Includes Vehicle Operator, LiDAR Technician Mileage on Project and Fuel) (Does Not Include travel to project.)	Day	Fixed	\$8,000.00	
Helicopter Equipment LiDAR				
Mobilization for Helicopter Fuel and Aerial Sensors (Includes Aircraft, Pilot, Sensor Operator, Transportation Cost)	Per Project	Fixed	\$25,000.00	
Transit miles (including turn, maneuver miles and local airport to project)	Per Mile	Fixed	\$15.00	
Project Flight Miles (On project flight miles)	Per Mile	Fixed	\$60.00	
Fixed Wing Airborne LiDAR				
Mobilization for Fixed Wing Aircraft and Aerial Sensors (Includes Aircraft, Pilot, Sensor Operator, Fuel and Transportation Cost)	Per Project	Fixed	\$25,000.00	
Transit Miles (including turn, maneuver miles and local airport to project)	Per Mile	Fixed	\$8.00	
Project Flight Miles (On project flight miles)	Per Mile	Fixed	\$20.00	
Aerial Photography				
Transit miles (including turn, maneuver miles and local airport to project)	Per Mile	Fixed	\$6.50	
Project Flight Miles (On project flight miles)	Per Mile	Fixed	\$30.00	
Airborne GPS/IMU Data collection/Processing	Per Project	Fixed	\$2,100.00	
Photo Lab Service				
Black and White Processing (film, development, scanning)	Per Frame	Max		\$25.00
Color Processing (film, development, scanning)	Per Frame	Max		\$35.00
Color Infrared Processing (film, development, scanning)	Per Frame	Max		\$45.00
Digital image processing	Per Frame	Max		\$27.00
Enlargements, Lamination, or Mounting	Per Sq FT	Max		\$6.00

Profit not allowed on Other Direct Expenses.

For Cost Plus Fixed Fee, Specified Rate and Unit Cost - Unless fixed, actual rates to billed not to exceed the maximum shown.

Documentation such as receipts or usage logs for other direct expenses are necessary for reimbursement, except for meals. For Lump Sum - No documentation required. Invoicing by physical percent complete includes combination of direct labor and other direct expenses.

NOTE: For Cost Plus Fixed Fee, Specified Rate, and Unit Cost - Miscellaneous other direct expenses up to \$100 per unit will be reimbursed at cost if approved and documented in advance by the State's Project Manager. Miscellaneous other direct expenses of \$100 per unit or more will not be reimbursed unless a supplemental agreement to the contract and work authorization (if WAs are used) has been executed in advance authorizing the miscellaneous other direct expenses. No more than \$2,500 in miscellaneous other direct expenses may be approved by the State's Project Manager over the life of this contract including prime provider and subproviders. **For Lump Sum** - This statement does not apply.

ATTACHMENT F

Not Applicable

ATTACHMENT G

**Computer Graphics Files for Document and Information Exchange
Not Applicable**

ATTACHMENT H-FG
Disadvantaged Business Enterprise (DBE)
for Federal-Aid Professional or Technical Services Contracts

- 1) **PURPOSE.** The purpose of this attachment is to carry out the U.S. Department of Transportation's (DOT) policy of ensuring nondiscrimination in the award and administration of DOT assisted contracts and creating a level playing field on which firms owned and controlled by minority or socially and economically disadvantaged individuals can compete fairly for DOT assisted contracts.
- 2) **POLICY.** It is the policy of the DOT and the Texas Department of Transportation (henceforth the "Department") that Disadvantaged Business Enterprises (DBEs) as defined in 49 CFR Part 26, Subpart A and the Department's Disadvantaged Business Enterprise Program, shall have the opportunity to participate in the performance of contracts financed in whole or in part with Federal funds. Consequently, the Disadvantaged Business Enterprise requirements of 49 CFR Part 26, and the Department's Disadvantaged Business Enterprise Program, apply to this contract as follows.
 - a. The Provider will offer Disadvantaged Business Enterprises, as defined in 49 CFR Part 26, Subpart A and the Department's Disadvantaged Business Enterprise Program, the opportunity to compete fairly for contracts and subcontracts financed in whole or in part with Federal funds. In this regard, the Provider shall make a good faith effort to meet the Disadvantaged Business Enterprise goal for this contract.
 - b. The Provider and any subprovider(s) shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Provider shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. The requirements of this Special Provision shall be physically included in any subcontract.
 - c. When submitting the contract for execution by the Department, the Provider must complete and furnish Exhibit H-1 which lists the commitments made to certified DBE subprovider(s) that are to meet the contract goal and Exhibit H-2 which is a commitment agreement(s) containing the original signatures of the Provider and the proposed DBE(s). For Work Authorization Contracts, Exhibit H-1 is required at the time of submitting the contract for execution by the Department. Exhibit H-2 will be required to be completed and attached with each work authorization number that is submitted for execution, if the DBE will be performing work. Any substitutions or changes to the DBE subcontract amount shall be subject to prior written approval by the Department. If non-DBE subprovider is performing work, insert N/A (not applicable) on the line provided.
 - d. Failure to carry out the requirements set forth above shall constitute a material breach of this contract and may result; in termination of the contract by the Department; in a deduction of the amount of DBE goal not accomplished by DBEs from the money due or to become due to the Provider, not as a penalty but as liquidated damages to the Department; or such other remedy or remedies as the Department deems appropriate.
- 3) **DEFINITIONS.**
 - a. "Department" means the Texas Department of Transportation (TxDOT).
 - b. "Federal-Aid Contract" is any contract between the Texas Department of Transportation and a Provider which is paid for in whole or in part with U. S. Department of Transportation (DOT) financial assistance.
 - c. "Provider" is any individual or company that provides professional or technical services.
 - d. "DBE Joint Venture" means an association a DBE firm and one (1) or more other firm(s) to carry out a single business enterprise for profit for which purpose they combine their property, capital, efforts, skills and knowledge, and in which the DBE is responsible for a distinct, clearly defined portion of the work of the contract and whose share in the capital contribution, control, management, risks and profits of the joint venture are commensurate with its ownership interest.
 - e. "Disadvantaged Business Enterprise (DBE)" means a firm certified as such by the Department in accordance with 49 CFR Part 26.
 - f. "Good Faith Effort" means efforts to achieve a DBE goal or other requirement of this Special Provision which, by their scope, intensity, and appropriateness to the objective, can reasonably be expected to fulfill the program requirement.
 - g. "Race-neutral DBE Participation" means any participation by a DBE through customary competitive procurement procedures.

- 4) **PERCENTAGE GOAL.** The goal for Disadvantaged Business Enterprise (DBE) participation in the work to be performed under this contract is 11.7% of the contract amount.
- 5) **PROVIDER'S RESPONSIBILITIES.** A DBE prime may receive credit toward the DBE goal for work performed by his-her own forces and work subcontracted to DBEs. A DBE prime must make a good faith effort to meet the goals. In the event a DBE prime subcontracts to a non-DBE, that information must be reported to the Department.
 - a. A Provider who cannot meet the contract goal, in whole or in part, shall document the "Good Faith Efforts" taken to obtain DBE participation. The following is a list of the types of actions that may be considered as good faith efforts. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.
 - (1) Soliciting through all reasonable and available means the interest of all certified DBEs who have the capability to perform the work of the contract. The solicitation must be done within sufficient time to allow the DBEs to respond to it. Appropriate steps must be taken to follow up initial solicitations to determine, with certainty, if the DBEs are interested.
 - (2) Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the Provider might otherwise prefer to perform the work items with its own forces.
 - (3) Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.
 - (4) Negotiating in good faith with interested DBEs by making a portion of the work available to DBE subproviders and suppliers and selecting those portions of the work or material needs consistent with the available DBE subproviders and suppliers.
 - (5) The ability or desire of the Provider to perform the work of a contract with its own organization does not relieve the Provider's responsibility to make a good faith effort. Additional costs involved in finding and using DBEs is not in itself sufficient reason for a Provider's failure to meet the contract DBE goal, as long as such costs are reasonable. Providers are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.
 - (6) Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities.
 - (7) Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or Provider.
 - (8) Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials or related assistance or services.
 - (9) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs.
 - (10) If the Department's Director of the Business Opportunity Programs Office determines that the Provider has failed to meet the good faith effort requirements, the Provider will be given an opportunity for reconsideration by the Director of the appropriate Division.

NOTE: The Provider must not cause or allow subproviders to bid their services.

- b. The preceding information shall be submitted directly to the Chair of the Consultant Selection Team responsible for the project.
- c. The Provider shall make all reasonable efforts to honor commitments to DBE subproviders named in the commitment submitted under Section 2.c. of this attachment. Where the Provider terminates or removes a DBE subprovider named in the initial commitment, the Provider must demonstrate on a case-by-case basis to the satisfaction of the department that the originally designated DBE was not able or willing to perform.
- d. The Provider shall make a good faith effort to replace a DBE subprovider that is unable or unwilling to perform successfully with another DBE, to the extent needed to meet the contract goal. The Provider shall submit a completed Exhibit H-2 Form for the substitute firm(s). Any substitution of DBEs shall be subject to prior written approval by the Department. The Department may request a statement from the firm being replaced concerning its replacement prior to approving the substitution.

- e. The Provider shall designate a DBE liaison officer who will administer the DBE program and who will be responsible for maintenance of records of efforts and contacts made to subcontract with DBEs.
- f. Providers are encouraged to investigate the services offered by banks owned and controlled by disadvantaged individuals and to make use of these banks where feasible.

6) **ELIGIBILITY OF DBEs.**

- a. The Department certifies the eligibility of DBEs, DBE joint ventures and DBE truck-owner operators to perform DBE subcontract work on DOT financially assisted contracts.
- b. This certification will be accomplished through the use of the appropriate certification schedule contained in this Department's DBE program.
- c. The Department publishes a Directory of Disadvantaged Business Enterprises containing the names of firms that have been certified to be eligible to participate as DBEs on DOT financially assisted contracts. The directory is available from the Department's Business Opportunity Programs Office. The Texas Unified Certification Program DBE Directory can be found on the Internet at:
http://www.dot.state.tx.us/services/business_opportunity_programs/tucp_dbe_directory.htm.
- d. Only DBE firms certified at the time the contract is signed or at the time the commitments are submitted are eligible to be used in the information furnished by the Provider as required under Section 2.c. and 5.d. above. For purposes of the DBE goal on this contract, DBEs will only be allowed to perform work in the categories of work for which they were certified.

7) **DETERMINATION OF DBE PARTICIPATION.**

A firm must be an eligible DBE and perform a professional or technical function relating to the project. Once a firm is determined to be an eligible DBE, the total amount paid to the DBE for work performed with his/her own forces is counted toward the DBE goal. When a DBE subcontracts part of the work of its contract to another firm, the value of the subcontracted work may be counted toward DBE goals only if the subprovider is itself a DBE. Work that a DBE subcontracts to a non-DBE firm does not count toward DBE goals.

A DBE subprovider may subcontract no more than 70% of a federal aid contract. The DBE subprovider shall perform not less than 30% of the value of the contract work with assistance of employees employed and paid directly by the DBE; and equipment owned or rented directly by the DBE. DBE subproviders must perform a commercially useful function required in the contract in order for payments to be credited toward meeting the contract goal. A DBE performs a commercially useful function when it is responsible for executing the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself. When a DBE is presumed not to be performing a commercially useful function, the DBE may present evidence to rebut this presumption.

A Provider may count toward its DBE goal a portion of the total value of the contract amount paid to a DBE joint venture equal to the distinct, clearly defined portion of the work of the contract performed by the DBE.

Proof of payment, such as copies of canceled checks, properly identifying the Department's contract number or project number may be required to substantiate the payment, as deemed necessary by the Department.

8) **RECORDS AND REPORTS.**

- a. After submission of the initial commitment reported (Exhibit H-1), required by Section 2.c. of this attachment, the Provider shall submit Monthly Progress Assessment Reports (Exhibit H-3), after contract work begins, on DBE involvement to meet the goal and for race-neutral participation. One copy of each report is to be sent to the Department's Business Opportunity Programs Office monthly, in addition one copy is to be submitted with the Provider's invoice. **Only actual payments made to subproviders are to be reported.** These reports will be required until all subprovider activity is completed. The Department may verify the amounts being reported as paid to DBEs by requesting copies of canceled checks paid to DBEs on a random basis.
- b. DBE subproviders should be identified on the report by name, type of work being performed, the amount of actual payment made to each during the billing period, cumulative payment amount and percentage of the

total contract amount. These reports will be due within fifteen (15) days after the end of a calendar month. Reports are required even when no DBE activity has occurred in a billing period.

- c. All such records must be retained for a period of seven (7) years following final payment or until any investigation, audit, examination, or other review undertaken during the seven (7) years is completed, and shall be available at reasonable times and places for inspection by authorized representatives of the Department or the DOT.
 - d. Prior to receiving final payment, the Provider shall submit a Final Report (Exhibit H-4), detailing the DBE payments. The Final Report is to be sent to the Department's Business Opportunity Programs Office and one (1) copy to be submitted with the Provider's final invoice. If the DBE goal requirement is not met, documentation of the good faith efforts made to meet the goal must be submitted with the Final Report.
- 9) **COMPLIANCE OF PROVIDER.** To ensure that DBE requirements of this DOT-assisted contract are complied with, the Department will monitor the Provider's efforts to involve DBEs during the performance of this contract. This will be accomplished by a review of Monthly Progress Assessment Reports (Exhibit H-3), submitted to the Department's Business Opportunity Programs Office by the Provider indicating his progress in achieving the DBE contract goal, and by compliance reviews conducted by the Department. The Monthly Progress Assessment Report (Exhibit H-3) must be submitted at a minimum monthly to the Business Opportunity Programs Office, in addition to with each invoice to the appropriate agency contact.

The Provider shall receive credit toward the DBE goal based on actual payments to the DBE subproviders with the following exceptions and only if the arrangement is consistent with standard industry practice. The Provider shall contact the Department if he/she withholds or reduces payment to any DBE subprovider.

- (1) A DBE firm is paid but does not assume contractual responsibility for performing the service;
- (2) A DBE firm does not perform a commercially useful function;
- (3) Payment is made to a DBE that cannot be linked by an invoice or canceled check to the contract under which credit is claimed;
- (4) Payment is made to a broker or a firm with a brokering-type operation;
- (5) Partial credit is allowed, in the amount of the fee or commission provided the fee or commission does not exceed that customarily allowed for similar services, for a bona fide service, such as professional, technical, consultant, or managerial services, and assistance in the procurement of essential personnel, facilities, equipment, materials, or supplies required for performance of the contract.

A Provider's failure to comply with the requirements of this Special Provision shall constitute a material breach of this contract. In such a case, the Department reserves the right to terminate the contract; to deduct the amount of DBE goal not accomplished by DBEs from the money due or to become due the Provider, not as a penalty but as liquidated damages to the Department; or such other remedy or remedies as the Department deems appropriate.

12/06
DBE-FED.ATT

EXHIBIT H-1

**Texas Department of Transportation
Subprovider Monitoring System
Commitment Worksheet**

Contract #: 86-5IDP5075 Assigned Goal: 11.7% Federally Funded X State Funded _____

Prime Provider: Brown & Gay Engineers, Inc. Total Contract Amount: \$15,000,000.00

Prime Provider Info: DBE ___ HUB ___ Both ___

Vendor ID #: 17418179515

DBE/HUB Expiration Date: _____

(First 11 Digits Only)

If no subproviders are used on this contract, please indicate by placing "N/A" on the 1st line under Subproviders.

Subprovider(s) (List All)	Type of Work	Vendor ID # (First 11 Digits Only)	D=DBE H=HUB	Expiration Date	\$ Amount or % of Work *
CDM Smith, Inc.	Toll & ITS Planning Design	10424736501			10%
Civil Associates, Inc.	Public Involvement	14120967543	D H	05/14/2015 07/23/2019	8%
MAS-TEK Engineering & Associates, Inc.	Highway Design	17525534677	D H	04/06/2015 06/21/2017	1%
White Hawk Engineering & Design, LLC	Plan Review and 3D Design	12726705184	D H	04/28/2015 05/21/2016	4%
Subprovider(s) Contract or % of Work* Totals					23%

*For Work Authorization Contracts, indicate the % of work to be performed by each subprovider.

Total DBE or HUB Commitment Dollars \$ _____

Total DBE or HUB Commitment Percentages of Contract 13%
(Commitment Dollars and Percentages are for Subproviders only)

12/06 DBEH1.AT

EXHIBIT H-2

Texas Department of Transportation Subprovider Monitoring System Commitment Agreement

This commitment agreement is subject to the award and receipt of a signed contract from the Texas Department of Transportation (TxDOT). **NOTE: Exhibit H-2 is required to be attached to each contract that does not include work authorizations. Exhibit H-2 is required to be attached with each work authorization. Exhibit H-2 is also required to be attached to each supplemental work authorization. If DBE/HUB Subproviders are used, the form must be completed and signed. If no DBE/HUB Subproviders are used, indicate with "N/A" on this line: _____ and attach with the work authorization or supplemental work authorization.**

Contract #: _____ Assigned Goal: _____ % Prime Provider: _____

Work Authorization (WA)#: _____ WA Amount: _____ Date: _____

Supplemental Work Authorization (SWA) #: _____ to WA #: _____ SWA Amount: _____

Revised WA Amount: _____

Description of Work (List by category of work or task description. Attach additional pages, if necessary.)	Dollar Amount (For each category of work or task description shown.)
Total Commitment Amount (Including all additional pages.)	\$

IMPORTANT: The signatures of the prime and the DBE/HUB and Second Tier Subprovider, if any (both DBE and Non-DBE) and the total commitment amount must always be on the same page.

Provider Name: Address: Phone # & Fax #: Email:	Name: _____ <div style="text-align: center;"><i>(Please Print)</i></div> Title: _____ <div style="text-align: center;">_____ Signature Date</div>
DBE/HUB Sub Provider Subprovider Name: VID Number: Address: Phone # & Fax #: Email:	Name: _____ <div style="text-align: center;"><i>(Please Print)</i></div> Title: _____ <div style="text-align: center;">_____ Signature Date</div>
Second Tier Sub Provider Subprovider Name: VID Number: Address: Phone # & Fax #: Email:	Name: _____ <div style="text-align: center;"><i>(Please Print)</i></div> Title: _____ <div style="text-align: center;">_____ Signature Date</div>
VID Number is the Vendor Identification Number issued by the Comptroller. If a firm does not have a VID Number, please enter the owner's Social Security or their Federal Employee Identification Number (if incorporated).	

EXHIBIT H-3

Texas Department of Transportation Subprovider Monitoring System for Federally Funded Contracts
Progress Assessment Report for month of (Mo./Yr.) _____ / _____

Contract #: _____

Original Contract Amount: _____

Date of Execution: _____

Approved Supplemental Agreements: _____

Prime Provider: _____

Total Contract Amount: _____

Work Authorization No. _____

Work Authorization Amount: _____

If no subproviders are used on this contract, please indicate by placing "N/A" on the 1st line under Subproviders.

DBE	All Subproviders	Category of Work	Total Subprovider Amount	% Total Contract Amount	Amount Paid This Period	Amount Paid To Date	Subcontract Balance Remaining

Fill out Progress Assessment Report with each estimate/invoice submitted, *for all subcontracts*, and forward as follows:

1 Copy with Invoice - Contract Manager/Managing Office

1 Copy – TxDOT, BOP Office, 125 E. 11th, Austin, TX 78701, 512-486-5500, toll free 866-480-2518, or Fax to 512-486-5519

I hereby certify that the above is a true and correct statement of the amounts paid to the firms listed above.

 Print Name - Company Official /DBE Liaison Officer

 Signature

 Phone

 Date

 Email

 Fax

12/06 DBE-H3.ATT

EXHIBIT H-4

**Texas Department of Transportation
Subprovider Monitoring System
Final Report**

The Final Report Form should be filled out by the Prime Provider and submitted to the Contract Manager and the Business Opportunity Programs Office for review upon completion of the contract. The report should reflect **all subcontract activity** on the project. The report will aid in expediting the final estimate for payment. If the HUB or DBE goal requirements were not met, documentation supporting good faith efforts must be submitted.

DBE Goal: ____%

OR

HUB Goal: ____%

Total Contract Amount: \$ _____

Total Contract Amount: \$ _____

Contract Number: _____

Vendor ID #	Subprovider	Total \$ Amt Paid to Date
TOTAL		

This is to certify that ____% of the work was completed by the HUB or DBE subproviders as stated above.

By: Prime Provider

Per: Signature

Subscribed and sworn to before me, this ____ day of _____, 20 __

____ Notary Public _____ County

My Commission expires: _____

EXHIBIT H-5**Federal Subprovider and Supplier Information**

The Provider shall indicate below the name, address and phone number of all successful and unsuccessful subproviders and/or suppliers that provided proposals/quotes for this contract prior to execution. You may reproduce this form if additional space is needed.

Name	Address	Phone Number
CDM Smith, Inc.	12357-A Riata Trace Parkway, Suite 210, Austin, Texas 78727	512-346-1100
Civil Associates, Inc.	9330 LBJ Freeway, Suite 1150, Dallas, Texas 75243	214-703-5151
MAS-TEK Engineering & Associates, Inc.	5132 Sharp Street, Dallas, Texas 75247	972-709-7384
White Hawk Engineering & Design, LLC	303 South Jupiter Road, Suite 100, Allen, Texas 75002	469-342-6844

The information must be provided and returned with the contract.

Wm D Dillon

Signature

11/19/15

Date

William D. Dillon

Printed Name

ddillon@browningay.com

Email

972-464-4800

Phone #